

iPad & iPhone **user**

iOS 9

Every new feature explained



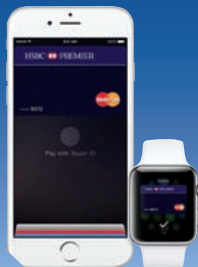
Music

All your favourite tracks at your fingertips



Pay

comes to UK



Welcome...

Welcome to the latest issue of *iPad & iPhone User*, the only guide you need to the wonderful world of iOS.

This month, we take a look at all the news from Apple's recent Worldwide Developers Conference. First, we've a complete guide to the tech giant's upcoming mobile operating system – iOS 9. We'll be examining all its features, including multitasking, UK public transport information, a more proactive Siri and improved Maps. It's due to be released in September, but if you can't wait for then, you can sign up to Apple's Beta Software Programme by visiting tinyurl.com/pkmbuxz.

WWDC also saw the launch of a new music-streaming subscription service – Apple Music. For a fee, you'll be able to listen to any track on the iTunes Music store, along with curated digital radio stations. It's set to launch on 30 June and we can't wait. Turn to page 27 for our in-depth guide.

The other big news from WWDC is that Apple Pay is finally coming to the UK. In our article on page 33, we explain how you can sign up for the mobile payment service, look at how secure it is, and reveal which shops and apps accept Apple Pay.

Plus, we take a look at watchOS 2. The Apple Watch may only be a couple of months old, but Apple has decided that its operating system needs a tweak. Go to page 78 to see what's changed.



Preview: iOS 9

Complete guide to Apple's latest mobile operating system

At its recent Worldwide developers Conference (WWDC) in San Francisco, Apple unveiled its latest mobile operating system – iOS 9. Over the following pages, we look at when it will be released, reveal its new features, and explain which devices it will run on.

When will iOS 9 come out?

Apple updates its iOS software platform for iPad, iPhone and iPod touch once a year, as regular

as clockwork. iOS 9 was made available for beta testers and app developers immediately, and will launch to the public alongside the next generation of iPhones in September 2015.

Get iOS 9 before September

Apple has extended its public beta programme to iOS, so you can sign up for this and get access to beta versions of iOS before they are released to the general public (visit tinyurl.com/pkmbuxz).

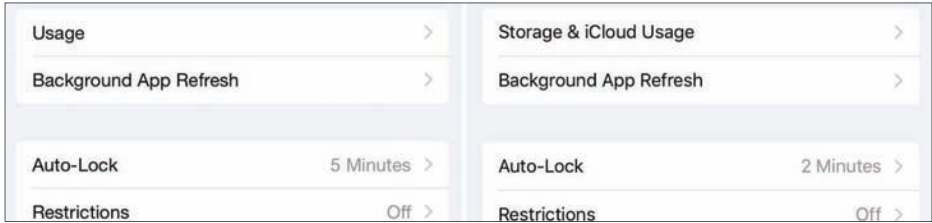
Design changes

After the radical visual rethink in iOS 7 (and the ensuing backlash from users), Apple's designers calmed down for iOS 8. In terms of the interface, it's practically identical to later builds of iOS 7.

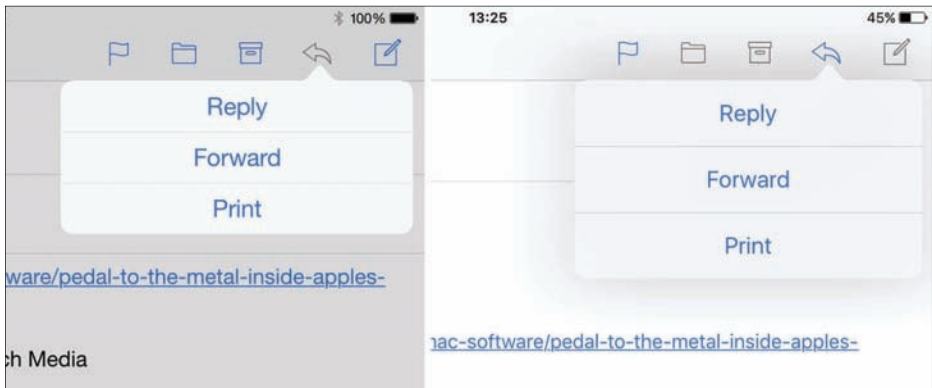
And that's largely what we expected from iOS 9 too. Because as iOS updates go, rapid change is the exception not the rule – and we can only imagine that Apple had its fingers burned by the reaction to iOS 7. Sure enough, iOS 9 looks almost identical to its predecessor. But there are some small, crucial differences in the way it looks, and the way the interface behaves.

New typeface

Apple has replaced the Helvetica Neue system font that was introduced in iOS 7 with a bespoke font called San Francisco. It's a subtle difference, but you can spot it if you look closely. Take these screenshots from the Settings app in iOS 8 (top left) and iOS 9 (top right). Look at the capital R on Refresh and Restrictions: the older font had more of a curl.



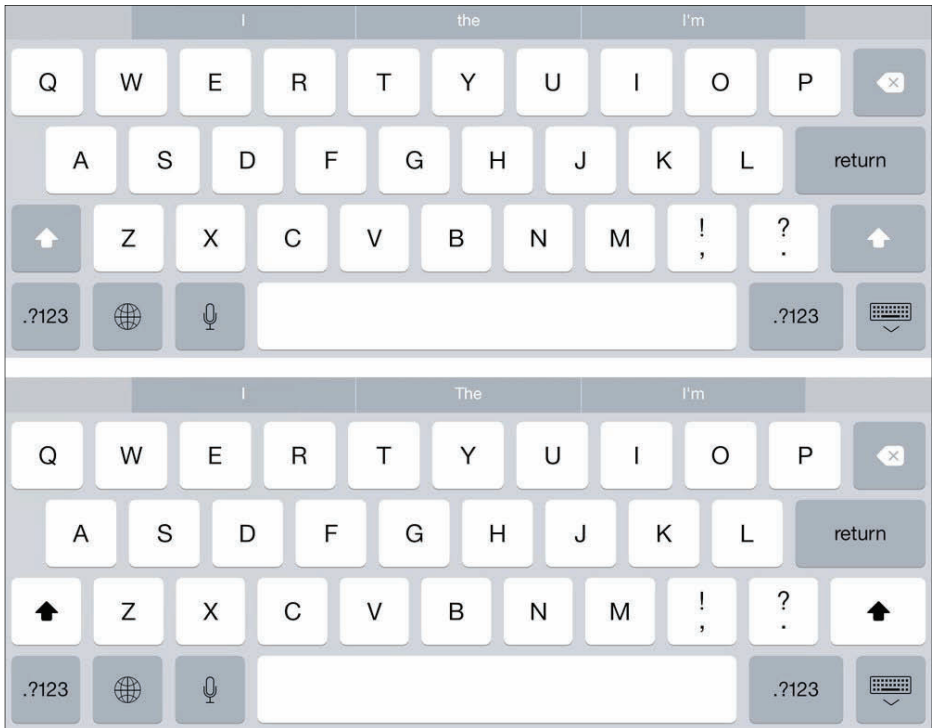
As well as a different typeface, iOS 9 deploys its typography in an airier, clearer way, with a little more space around the lettering. Have a look at the Reply options in the Mail app. Again, iOS 8 is on the left and iOS 9 on the right.



You already know San Francisco without necessarily realising it: it's the system font from the Apple Watch, and was selected and designed specifically to be readable on a miniature screen. The general feeling is that Apple's move to a super-slim Helvetica variant for iOS 7 sacrificed readability of the sake of attractive visual minimalism, and iOS 9's San Francisco typeface should be easier to read as well as remaining easy on the eye.

New Shift key and other keyboard changes

This one sounds small, but you'd be amazed by the number of people who have complained about it. The Shift key in iOS 8's default system keyboard is ambiguous. When it's on, it looks off, and when it's off, it looks on, as you can see in the screenshot below.



The top image shows that the Shift key is turned off (look at the QuickType suggested words to confirm this – 'the' is not capitalised). In the bottom keyboard, Shift is on – yet it's the same colour as the other keys on its row. Rather confusing.

You'll be pleased to hear that Apple has sorted this out in iOS 9. We thought it might involve a splash of colour when Shift was enabled, as you'll see in some rival platforms, but Apple remains committed to its minimalist principles. Instead, the entire set of keys change to lower- or upper-case, as the situation demands (see below).

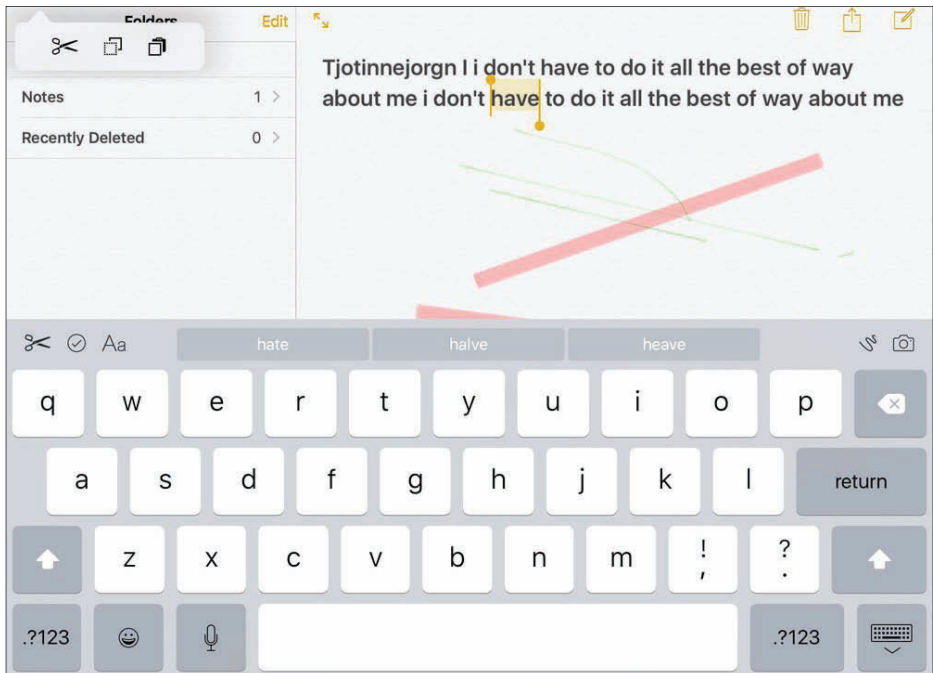


You'll also notice some additions to the system keyboard: shortcut keys at the top right. These are for cut-and-paste commands (the scissors) and to-do list formatting (the tick in a circle), as well as more formatting options (the upper- and lower-case A).

This is what you get in Notes, at any rate. In a lot of cases, you'll just get the cut-and-paste options, and they will be listed separately (see below).



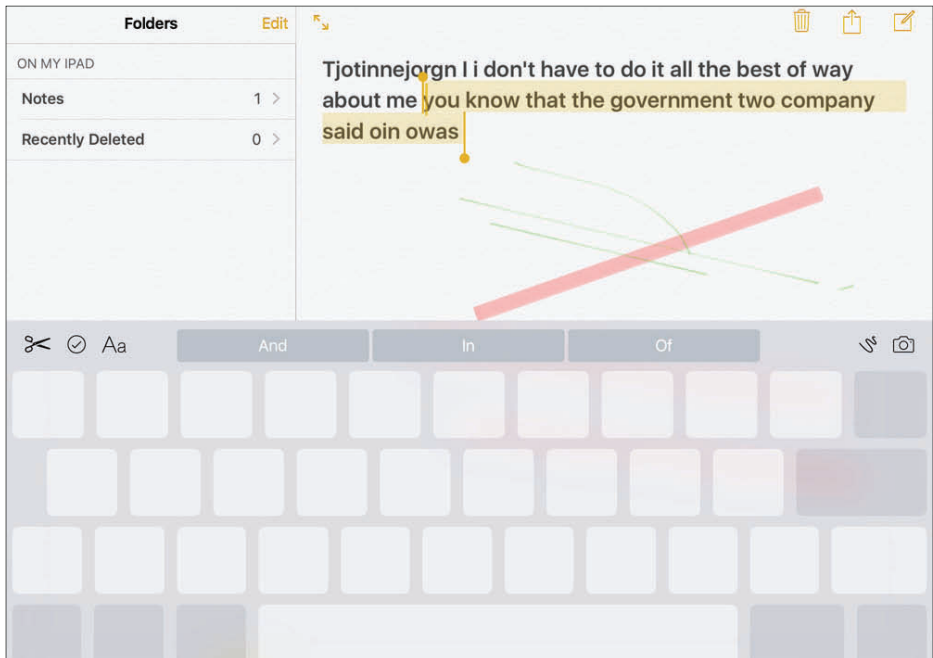
As they are (top left) in Notes if you tap the button (see below).



Cut is obviously the scissors, and Copy and Paste are the next options along.

We'll discuss the new features in Notes on page 20, including its new ability to easily create functional to-do lists.

One last change to the keyboard: tap and hold anywhere on the keyboard with two fingers at the same time, and you'll gain control of a 'cursor', which is handy for highlighting text (see below).



The keys all grey out while this is in effect, and moving the fingers around on the screen moves the cursor around, selecting any text between it and the starting position you were in before doing the double-finger tap and hold.

New features and enhancements

Apple likes to include at least one showy marquee feature each time it updates iOS, something it can whip up some hype around at the launch presentation: iOS 8 had Health, Continuity and Apple Pay; iOS 7 had Control Centre, Touch ID and (later) CarPlay; while iOS 6 had Maps and Do Not Disturb. So what does iOS 9 have to offer?

Proactive personal assistant

As expected, the marquee feature in iOS 9 is a contextual, predictive personal assistant feature that Apple refers to as 'Proactive'. It's tied in with Siri, but is a far more pervasive aspect of the operating system – if you're willing to let it, it will learn about your habits throughout the day and offer relevant apps and functions that suit what it expects you to do in any given situation.

Proactive will learn your habits and, like a well-trained butler, learn to anticipate your needs before you're aware of them, and respond to Siri queries, or offer quick links to apps or contacts, in context-appropriate ways. If there's one particular app you nearly always open at a particular time of day – the Weather app when you wake up, for instance – then Proactive will help you to do this, offering a little bubble to open the app with one tap. If you call someone habitually, you'll get a button for that at the appropriate



time. It's partly a shortcut, and partly a reminder of what you normally do but might have forgotten (see bottom-left image).

You'll also notice that iOS offers news stories in this screen: these are based on your location – stories that are trending in your vicinity.

In humorous mode, Senior Vice President, Software Engineering Craig Federighi claimed that he habitually meditates as soon as he wakes, so showed his theoretical iOS 9 iPhone prompting him with a meditation app at the relevant time. (Like the Camera app icon, the icon for this app appeared in grey at the bottom of the lock screen.) iOS had learned that habit – it didn't need to be told to add the app to the lock screen.

Similarly, if you regularly call someone at a certain time each week, or at a certain location, Proactive will offer that contact on the search screen accessed via a right swipe from the Home screen. iOS 9 will (in theory) know you want to call before you do, and make things much easier with its predictive help.

In the following screenshot, for instance, Proactive is offering a Now Playing shortcut to your music, because it's learnt that you usually work out at this time of day. Simply plugging in the headphones is enough for iOS 9 to know to jump to music (see right).



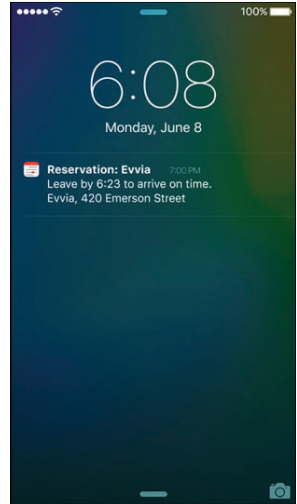
If there's an appointment in your Calendar, iOS will intelligently remind you when to leave, based on local traffic conditions (see right).

One last change that appears to come under the Proactive umbrella: when you receive a phone call and the caller's number isn't stored in Contacts, iOS 9 will intelligently look for that number in your emails, and offer hints as to who it might be. This is a fantastic idea that we really like, although some may dislike the idea of iOS combing through the contents of personal emails.

In general, Android fans will, of course, point out that they've seen this all before: it's a similar concept to Google Now, the predictive personal assistant feature that's been available for Android since 2012 and Chrome since 2014.

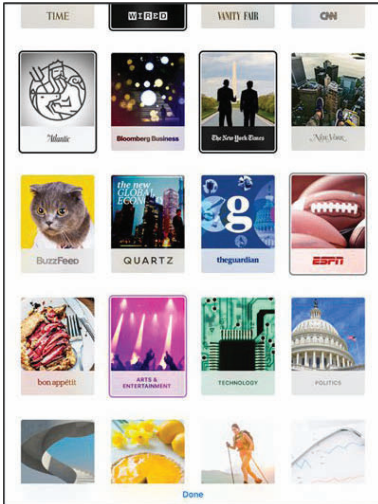
Indeed, the timing is a bit awkward for Apple: Google Now got plenty of attention at May's I/O conference, and will soon be offering superior context awareness – if you're playing a song and ask “What's his real name?”, Google Now will know that you mean the bloke singing, apparently – and a feature called ‘Now on tap’.

As with Apple Maps a few years ago, Apple is taking on a successful and evolving target. Google has set a high standard to beat.



News app

More of a surprise than the previously leaked Proactive: Apple demonstrated a brand-new



app called News for iOS 9. This appears to be a little like Flipboard – you select sources and it draws in news stories from those sources automatically. Apple, one suspects, wants this to be your primary resource for news information, which will set alarm bells ringing in publishing houses and (perhaps more so) at Google HQ. Google is currently the main gatekeeper for readers' access to news data from publishers.

Apple described News as “beautiful content from the world’s greatest sources, personalised for you”. You pick sources, and you get a feed of those sources. More than this, the app appears to be able to learn about your interests: it will show you articles from sources you didn’t select if they match your interests (Machine learning analyses article content to hopefully show you only stuff you like, Apple said), and there’s an Explore feature that shows you new channels that the app thinks you might like, plus more topics.

You can bookmark stuff for later, there are embedded videos, and you can search through the app’s more than a million topics. It’s impressive stuff, but will we bother to use it when we already have favoured news sources?

One last thing in News’ favour: it looks great. What the company calls ‘Apple News Format’ optimises it



for display in the app, while still making it look like the outlet you're used to: their logo and style.

In a press statement, Apple boasted that Apple News Format “allows publishers to create stories that look beautiful and take advantage of the full power of iOS. Content can include photos and galleries, audio, video, maps and rich interactions such as parallax and animation. When publishers create their stories for News, content comes alive with custom fonts and intuitive Multi-Touch gestures. Apple News Format automatically customises the layout for each screen size, so News content looks great on both iPhone and iPad.”

“News seamlessly delivers the articles you want to read in a beautiful and uncluttered format, while respecting your privacy, because Apple doesn’t share your personal data,” said Eddy Cue, Apple’s Senior Vice President of Internet Software and

The Economist POLITICO VANITY FAIR The Telegraph SELF COASTAL LIVING
 COSMOPOLITAN Popular Mechanics FORTUNE 財経 FORTUNE FINANCIAL TIMES
 BAZAAR Women's Health BRIDES TIME redbook Entertainment
 theguardian TOWN & COUNTRY REAL SIMPLE Esquire ELLE
 GLAMOUR WIRED Men's Health marie claire Traveler seventeen
 Daily Mail.com BuzzFeed Vox VOGUE ESPN VULTURE
 bon appétit allure GQ InStyle The Atlantic arstechnica THE VERGE
 Bloomberg Business the CUT The New York Times teen VOGUE ESSENCE People
 NEW YORK Sunset QUARTZ CNN epicurious Golf Digest

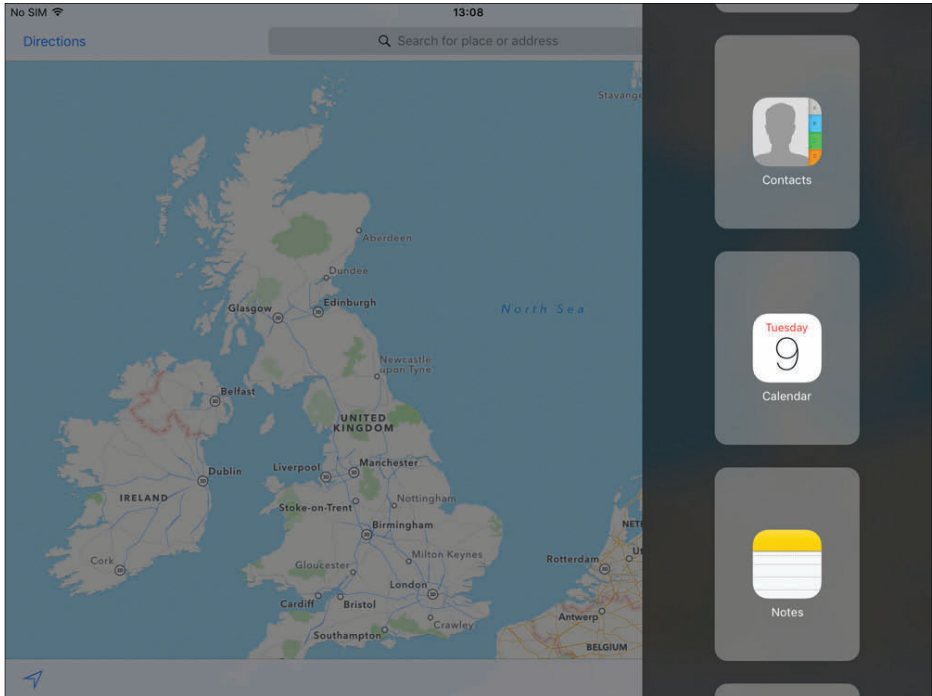
Services. “We already have nearly 20 publishers representing more than 50 titles joining us, including Condé Nast, ESPN, The New York Times, Hearst, Time Inc, CNN and Bloomberg.”

Multitasking

This next one is only for the iPad, and it's the Holy Grail of iOS features, the one we've all been asking for years: multitasking (see below).

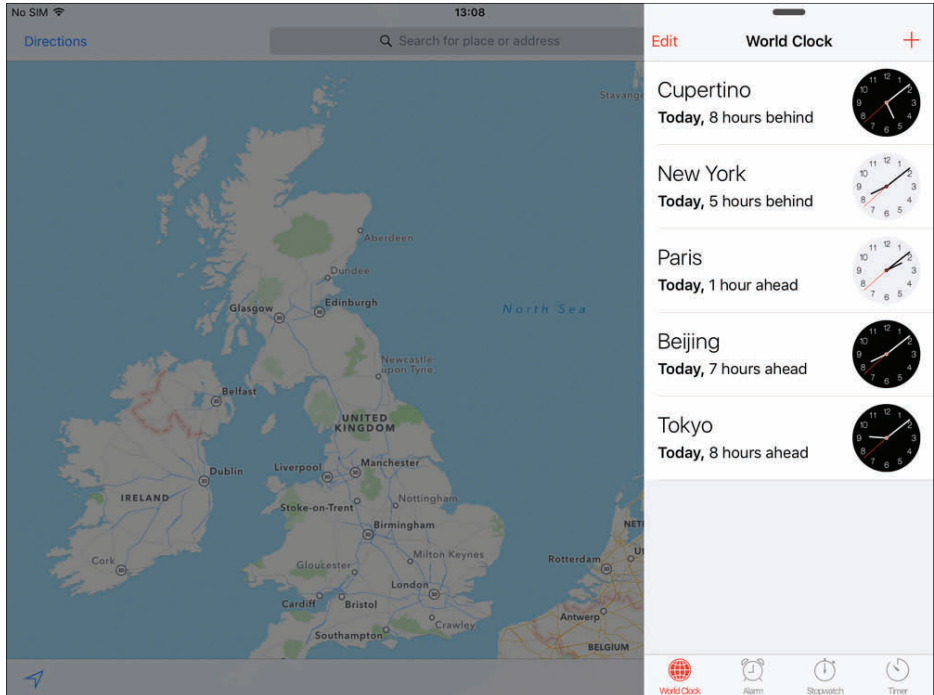


iOS 9 on the iPad lets you view two apps at once. In its simplest form, you activate this from any app by swiping inwards from the right-hand side, whereupon you'll be offered a range of apps that can run in a sidebar view (see below):

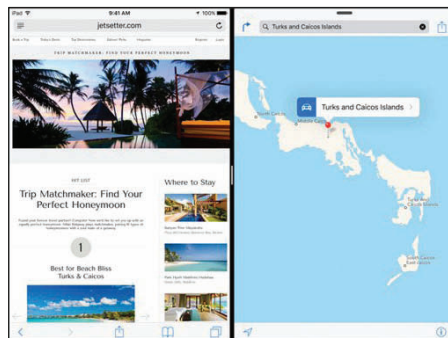


Pick one of these and you'll be able to view it at the same time as the 'main' app (see top right):

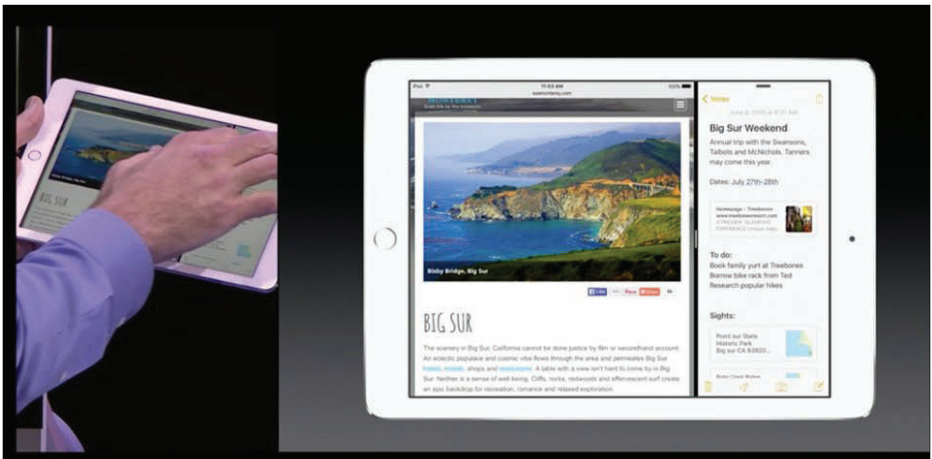
Swipe down from the top of that sidebar to go back to the app chooser pane. In this simple form, however, you can't interact with both apps at once. You can interact with the sidebar app while viewing the main app, but as soon as you tap on the main app the sidebar vanishes back into the side of the



screen. (Swipe inwards from the right to get it back.) But if you're running the iPad Air 2, you can take multitasking to the next level (see below).

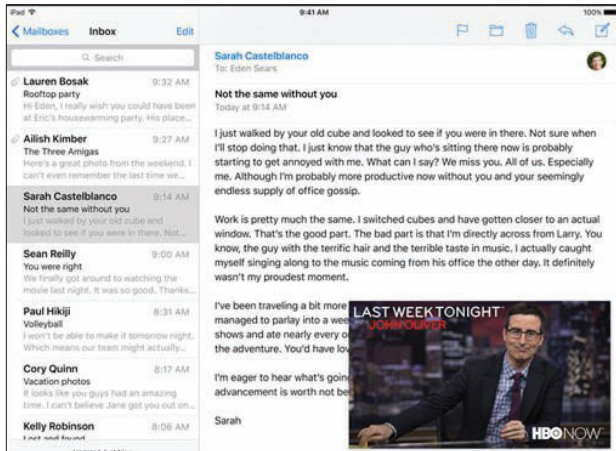


When you run apps in Split view, both apps are active – you can interact with both at the same time, even scrolling them in opposite directions thanks to multitouch. For example, at WWDC 2015 Craig Federighi browsed Safari but kept Notes pinned to the side at the same time. (The amount of space each app takes up is adjustable, between 50/50 and two thirds/one third.) He could then easily pop into full-screen Notes to show off the QuickType keyboard toolbar (see below).



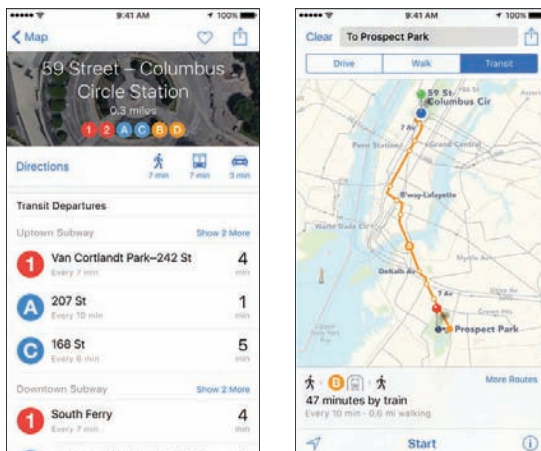
Perhaps the most exciting application of all this is picture-in-picture video viewing. Federighi showed us a sports video, but then, deciding he wanted to look something up, was able to shrink it to a picture-in-picture thumbnail view (see top right).

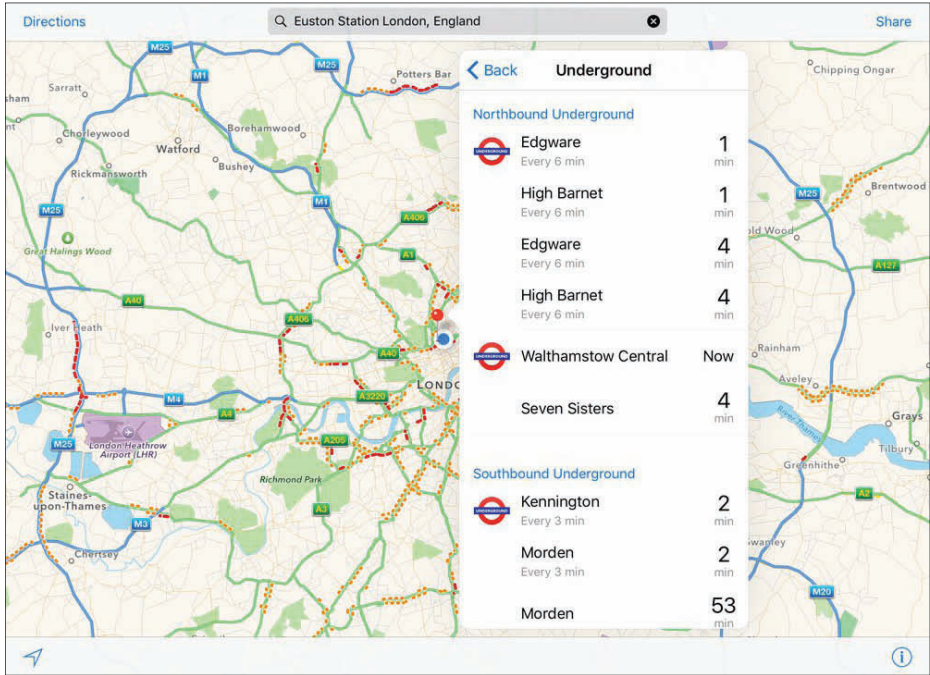
Multitasking, as we said, is limited to the iPad; the splitscreen mode, and the ability to interact with two apps at the same time, is further limited to only the most advanced iPad, the iPad Air 2.



Maps

Long derided as the red-headed stepchild of Apple's software products, Maps got plenty of attention at WWDC. It now boasts (at long last) access to public-transport directions, improved location detail and the ability to discover nearby business and other points of interest.



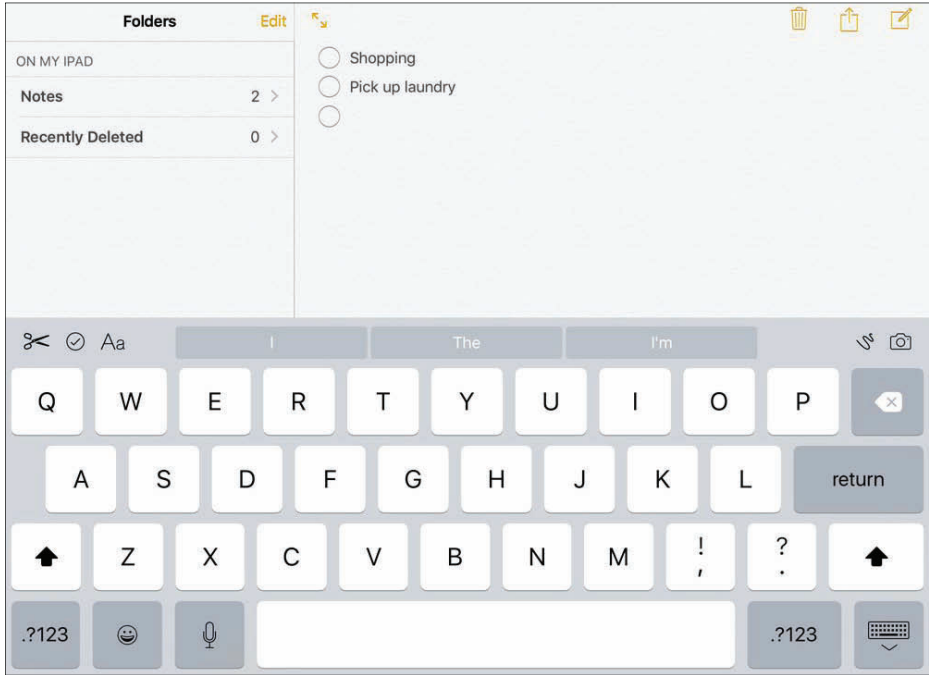


Craig Federighi announced that Maps in iOS 9 will provide public-transport maps and directions for cities including San Francisco, New York, Los Angeles, Toronto, Paris, Berlin and (good news for Euston Road-based *iPad & iPhone User*) London – not to forget more than 300 locations in China.

Maps also gains more the ability to search for businesses near a specific location, including photos, directions and whether or not the shop supports Apple Pay.

Notes

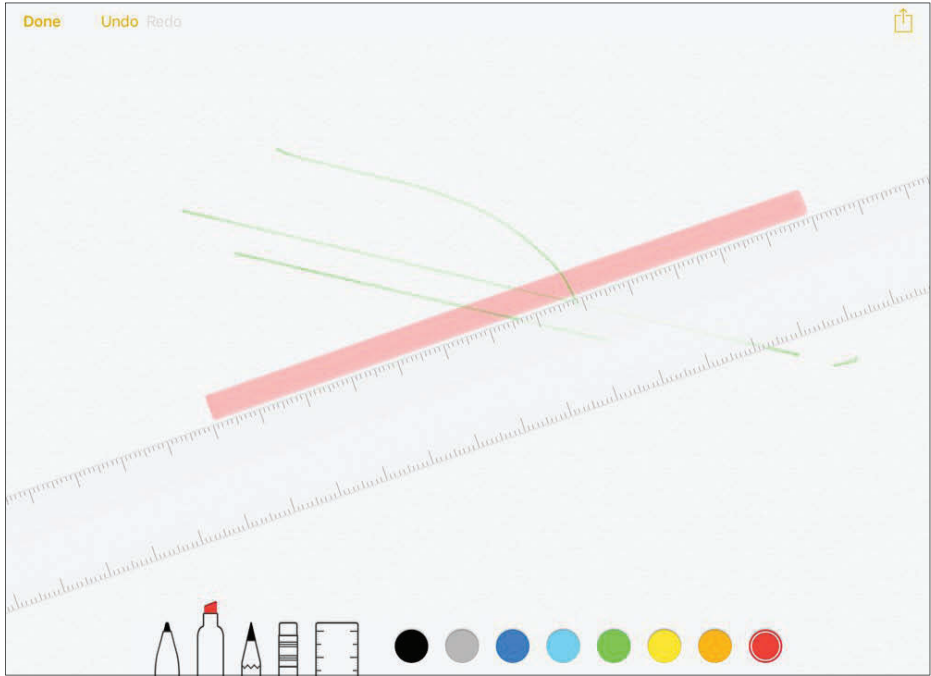
Notes may not be the most beloved of preinstalled apps, but at WWDC it got an unexpected makeover.



It's now got some nice new features. As we said earlier, Notes can now create to-do lists. You just tap the tick in a circle and it will enter the following paragraph as a bullet point, and then default to that for subsequent paragraphs (see above).

Apple has also added a charming new feature that we can only describe as a digital scribble, although it will be useful in far more contexts than that implies. From anywhere in your note, tap the squiggle icon (to the right of the QuickType suggestions) and Notes will open a new window in which you can doodle to your heart's content.

There's a clever ruler feature: tap the icon and move the ruler wherever you want it, rotate it with

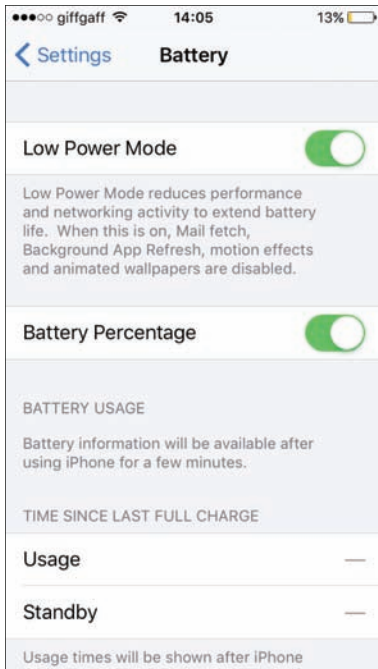


two fingers and then draw along it with one of the other pen tools. And you can draw in eight different colours. The idea isn't to replace dedicated art apps, of course, just to allow you to quickly sketch out a basic concept for a colleague to look at.

Low-power mode, and improved battery life

Another one we've been demanding for a long time – iOS 9 will add a low-power mode, helping us to eke out a lot more battery life from our devices, and is supposedly generally less power-hungry.

This is a surprise, in the Apple world, where we routinely expect OS updates to be more demanding than their predecessors. But iOS 9, as well as being



compatible with all the devices that iOS 8 was (see page 25) is reportedly more power-efficient, too. Apple claims that iOS 9 gifts an iPhone 6 about an extra hour of battery life, typically – an impressive boost to existing hardware, although we’ll obviously need to test this out.

Better still, the new low-power mode reduces animations and other superfluous features in order to stretch battery life still further. Low-power mode is a single switch that “pulls levers you didn’t even know existed”, according to Apple. And it should add about three hours to your battery life, the firm claims.

We’re not sure whether those three hours are in addition to the extra hour you get simply for running iOS 9, or include it; at least one site has been quoting a total gain of four hours but the way Apple phrases it makes this unclear.

But what functionality has Apple sacrificed to make battery life better, and what do you lose by triggering low-power mode? That too is somewhat unclear at this point, with Apple confining its remarks to the following: “Across the entire operating system, apps and key technologies have been made more efficient to trim battery usage wherever possible – so you get more battery life for the things you do every day. Thanks to ambient

light and proximity sensors, your iPhone knows if it's facedown on the table and prevents the screen from turning on, even when you receive a notification. And the new Low Power mode lets you extend your battery life even further."

iCloud Drive app

Another update that was leaked/rumoured ahead of the event: iCloud Drive gets its own dedicated iOS app. This lets you view files stored on the service.

HomeKit

We expected HomeKit to be the centrepiece of WWDC 2015, but that honour went to Apple Music (page 27). Nevertheless, we heard about the ways iOS 9 will be able to monitor and control connected-home appliances and sensors. iOS 9 adds support for windows shades, carbon monoxide and motion sensors, and security systems. You will be able to access your home remotely via iCloud, securely.

HealthKit

Apple also announced some minor updates to the HealthKit SDK (although those affected may consider the elements related to reproductive health rather more than minor). iOS 9 adds water intake tracking, plus other metrics, as well as UV exposure.

Apple Pay (in the UK)

Last but (at least for us here in the UK) not least. Apple Pay is still in iOS, but this summer it will be available in the UK. Read our Apple Pay UK launch article on page 33 for more details.



iOS 9 compatibility

We reveal which Apple devices are compatible with iOS 9

Apple took to the stage at WWDC 2015 to show off iOS 9, and with the unveiling of the new mobile operating system came the announcement about which iPhones, iPads and iPods will be able to get it when it's released in autumn. Although iPhones and iPads are top of the range (or near the top) when released, as the years go by and new iterations of iOS are released, devices become slow and sluggish; and sometimes they get dropped from compatibility with new iOS

iOS 9 is compatible with these devices.

iPhone



iPhone 4s

iPhone 5

iPhone 5c



iPhone 5s

iPhone 6

iPhone 6 Plus

iPad



iPad Air 2

iPad Air



iPad 2

iPad 3rd generation

iPad 4th generation



iPad mini 3

iPad mini 2

iPad mini

iPod



iPod touch 5th generation

updates. But not this year. Here's a list of every Apple device that supports iOS 9:

- iPad 2, 3, 4, Air and Air 2
- iPad mini, mini 2 and mini 3
- iPhone 4s, 5, 5c, 5s, 6 and 6 Plus
- iPod touch (fifth generation)

Plus Apple's next generation of iPhones and iPads will come with iOS 9 preinstalled.

You'll be able to download the operating system for free when it launches in September.



Apple Music

How to set up and start using Apple Music in the UK

Apple Music looks set to change the music industry. The company's new music-streaming subscription service enables you to listen to any track from the iTunes Music store, along with curated digital radio stations and a direct connection to musicians and artists.

The tech giant promises "a revolutionary streaming music service, a pioneering worldwide live radio station from Apple broadcasting 24 hours a day and a great new way for music fans to connect with their favourite artists".

Launch date

Apple Music launches globally on 30 June 2015. Your first three months of Apple Music are free, after which you pay a monthly subscription fee to use the whole service. Some features are, however, available for free to all users (see page 31).

Price

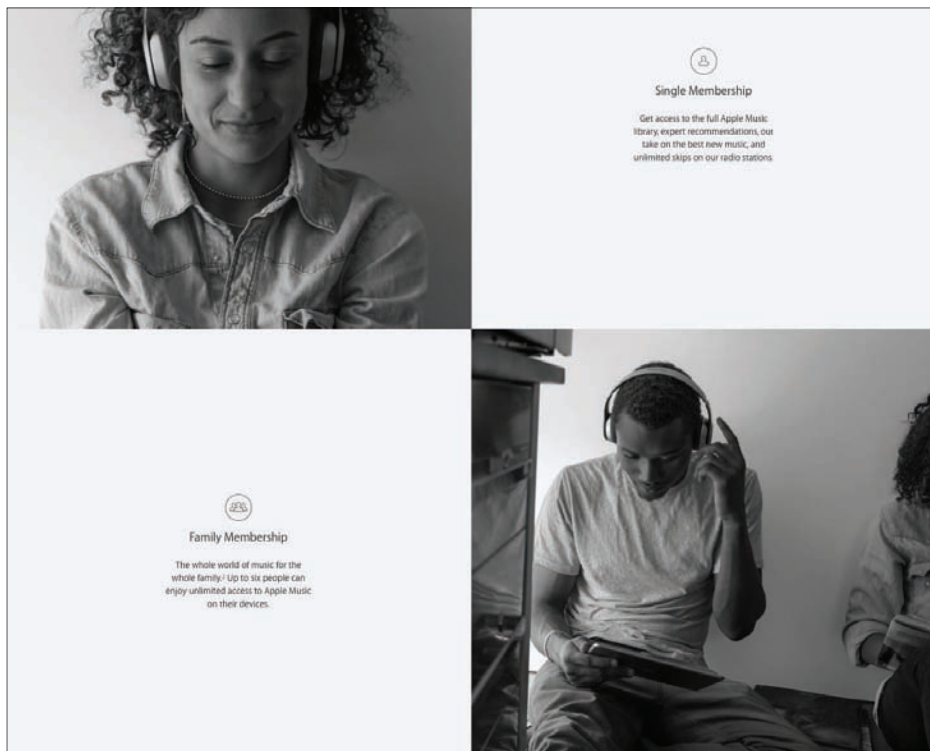
We don't know yet. Apple has announced only US pricing so far. Prices will start at \$9.99 per month subscription fee will apply. There will also be a family plan for up to six family members, costing \$14.99 per month.

What this will translate to for UK users is unknown. Apple has simply said it will announce pricing closer to the launch. Most users are assuming that Apple will be tying the price along the same lines as its app pricing. If that is the case, we should see the following prices:

- Apple Music Membership: £7.99 (per month).
- Apple Music Family Membership: £10.99 (per month).

This is assuming that Apple follows the same pricing strategy it uses for apps – and note that Apple doesn't do this with iTunes Match.

Apple charges \$24.99 in the US, and £21.99 in the UK (not the £18.99 it would charge under its app store pricing strategy). This is because Apple pays different licensing fees to music companies in different territories. Apple could be forced to charge £9.99 in the UK to match rivals like Spotify.



Features

My Music

This is the music you've purchased from Apple, imported from a CD or ripped from elsewhere. Like in iTunes Match, all the music you own is matched against tracks from iTunes (or uploaded to Apple) and you can play it on all your devices.

Apple Music

You can add any music from the Apple Music library to your iTunes collection. This can be saved for offline listening.

Apple Music Radio

Apple's new radio station, Beats 1, broadcasts from three cities around the globe. It's led by Zane Lowe (a former Radio One DJ) who broadcasts from Los Angeles, along with Ebro Darden (New York) and Julie Adenuga (London). The station allows you to skip tracks and choose from a range of genres (such as Pop Hits, Blues or Americana). The DJs choose the tracks for the genres.

Apple Music Connect

This is the connection between musicians and their fans. Musicians can post songs and videos to Connect. You can follow your favourite musicians and see what they're sharing on Connect. You can comment on anything they have posted and share it on Facebook or Twitter.



How to get your music on Apple Music Connect

With Apple Music you can upload the following:

- Up to 90 minutes of audio
- Up to 8 minutes of video
- Photos in JPEG or PNG file formats

To join iTunes Connect Apple Music Profile, you'll need to become a verified artist. To request access, visit tinyurl.com/nbapgqf and follow the steps.

What kind of music will you find on Apple Music?

Playlists are one of our favourite aspects of Spotify. These are curated by Spotify users (and the Spotify team). This open playlist nature has led to some truly esoteric playlists. In Apple Music playlists are created in three distinct ways:

Activities

This is automatically generated based on your personal activity. It matches music to working, chilling out or exercising.

Apple Music Editors

Apple calls this “the music we’re obsessing over, plus handcrafted playlists”.

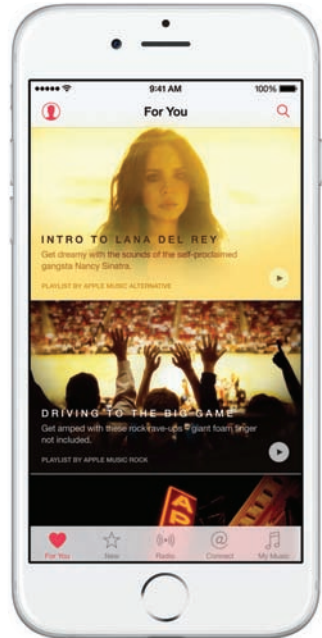
Curators

Apple has created playlists of tracks from big names in music such as *Rolling Stone* and *Mojo*.

Get Apple Music for free

You don’t have to pay for Apple Music: you can continue using iTunes and listen to your own music inside the Apple Music app. You also get a range of new features for free, so don’t be in too much of a hurry to pay. Here’s what you get:

- View artists feed on Connect
- Follow artists on Connect



- Access to Beats 1 radio station
- Access to Apple Music radio stations

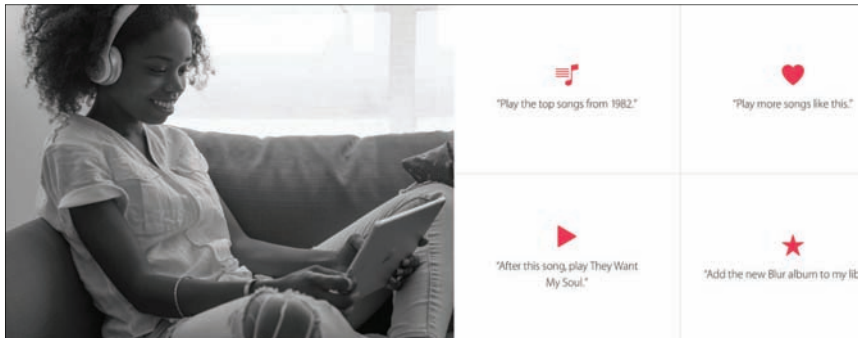
What extra features do you get for the paid service?

If you pay for an Apple Music subscription, you get all the above, plus the following:

- Pay and save Connect content
- Like Connect content or radio songs
- Unlimited streaming from Apple Music library
- Add Apple Music content to your library
- Offline listening
- Expert music recommendations

How to get Apple Music

You will be able to access the new streaming service via a new app, which is set to be released on 30 June. This will replace the current Music app on iOS devices, and the service will be available inside iTunes on OS X. You will be able to sign up from inside the Music app on your iPhone and from iTunes in OS X.



Apple Pay

Apple's mobile payment system comes to the UK

After all the waiting, Apple Pay is set to launch in the UK in July. Over the following pages, we look at how Apple's digital wallet works, which retailers support the service and how secure it is.

UK launch date

If you live in the US, you'll have been able to use the service since 20 October 2014 – it launched as part of the iOS 8.1 update.

But it was currently restricted to the US. Apple Pay saw one million activations in its first three days.

Unfortunately, we in the UK have had to wait for the service. We had expected a European rollout date in early 2015, but we had to wait until 8 June for official word.

At WWDC 2015, Apple announced that the payment service will launch in the UK in July 2015, with

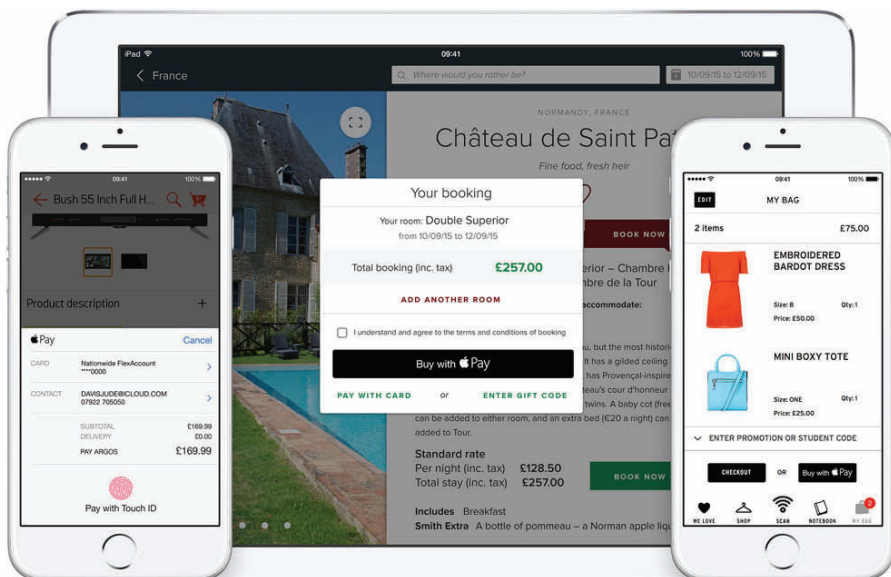


more locations accepting the service at launch than accepted Apple Pay in the US at the original launch. These will include some shops that Apple evidently considered to be quintessentially British, such as Marks and Spencers and Waitrose, as well as TfL (Transport For London), the company which runs the London Underground and the bus network.

What is Apple Pay

At its iPhone 6/6 Plus launch event last September, Apple also debuted what it called “an entirely new category of service”: a mobile payments system called Apple Pay.

This has been designed to let you pay for things with your iPhone (or Apple Watch or iPad, in slightly different and more limited ways). Sorry, it will “change the way you pay for things forever”.



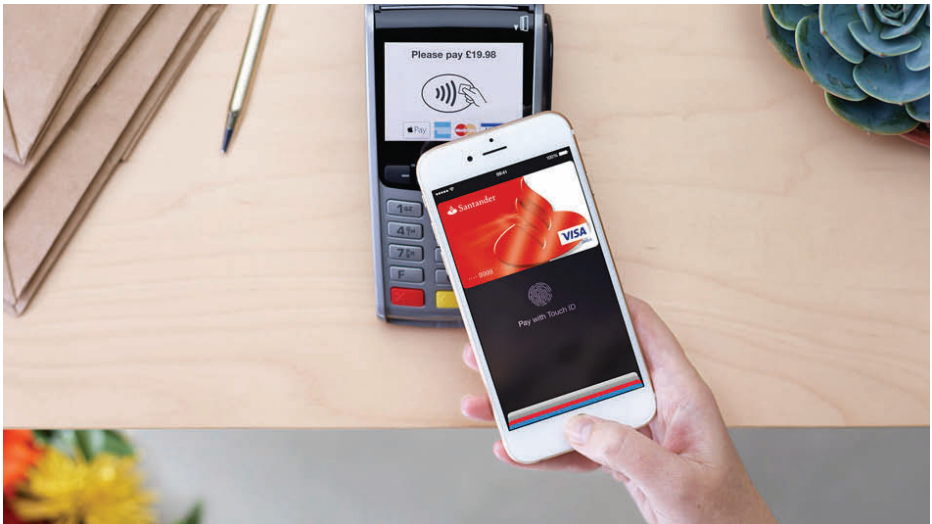
How Apple Pay works

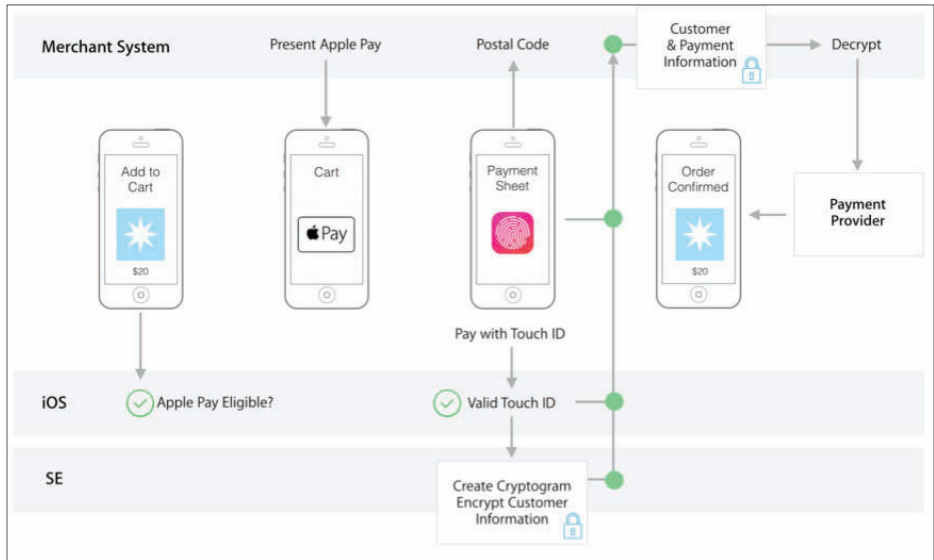
Your Touch ID fingerprint scanner is key to the whole thing, but you will also need a specific NFC antenna that is built into certain Apple devices.

If the shop you're in supports Apple Pay (more on that later), they will have a little sensor by the till. You put your iPhone on the sensor, put your finger on the Touch ID fingerprint scanner to identify yourself, and that's it.

The underlying technology is NFC (which stands for 'Near Field Communication'), a standard that Android phones have used for mobile payments for some time. Google Wallet is based on NFC. Indeed, NFC has been around since the late 1990s, appearing in key fobs, Oyster cards and similar.

There are NFC antennas in the iPhone 6 and 6 Plus, but not in any earlier iPhones. There are also NFC chips in the iPad Air 2 and mini 3, but they





appear to be deactivated for the time being; no iPad is able to use the full, in-store version of Apple Pay.

How easy is Apple Pay to use

Here at *iPad & iPhone User* we've not tried Apple Pay yet, since it hasn't launched outside the US. But reporters for our American sister title *Macworld US* have tried it out, and they've reported extensively on the customer experience.

"I didn't experience any cashier confusion or glitches when I used Apple Pay, except when I tried to buy pumpkin-shaped Snickers at Rite Aid," writes one of our US colleagues. It's another world over there, isn't it?

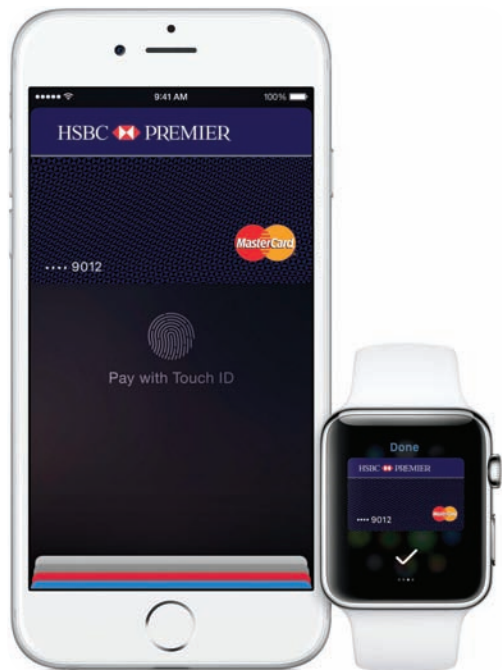
More seriously, the writers found the service broadly user-friendly and easy to master. "It's secure, easy to use, and quick," they observe. "Rummaging

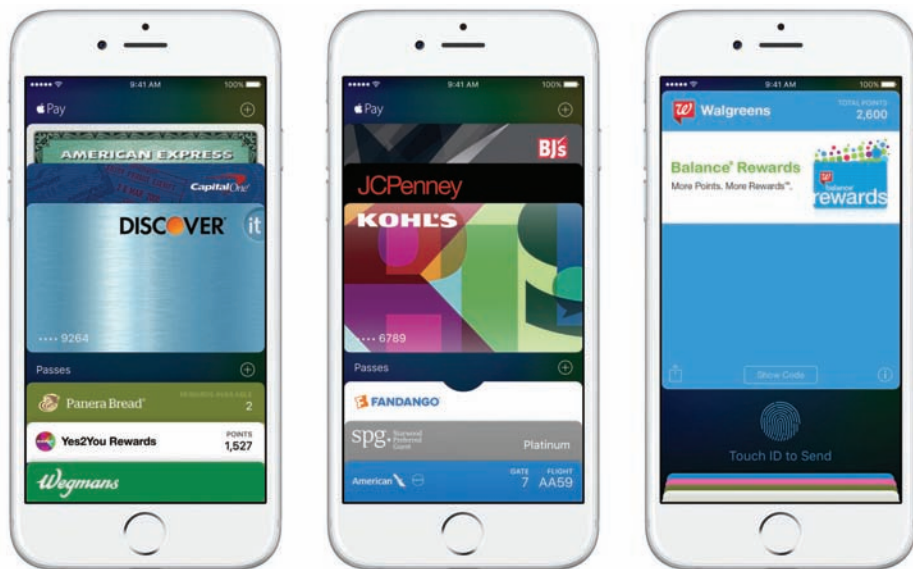
through your bag or pocket for your phone takes considerably less time than digging for your wallet and then fumbling through until you find your card.”

But there were some problems, at that early stage in Apple Pay’s US adoption, getting shop workers to grasp the way the system works. Processing refunds proved to be particularly tricky.

“Since Apple Pay randomises the card number for merchants and prints out that fake card number on the receipt, I had a feeling that returns would be problematic, even though Apple insists it wouldn’t be. As it turns out, I was right... and I was wrong,” writes Leah Yamshon.

“There was a brief hiccup at American Eagle, when the cashier asked if he could see my credit card to confirm that the last four digits matched what was on my receipt (just like my old store!). I explained that I had used Apple Pay, and that the receipt wouldn’t match my card because of the system’s security measures. Stumped, the associate called his manager over, and we filled her in on what was going on.





The manager told me that she still needed to see my actual credit card to make the return, explaining that I couldn't get a refund without swiping the card. It was a learning experience for both of us."

Yamshon wisely predicts that hiccups of this sort are sure to ease as Apple Pay becomes more widely understood. We should therefore brace ourselves for difficulties in the early months after Apple Pay launches in the UK, but at the same time be reassured that they won't last forever.

How to set up Apple Pay

Take a picture of your credit card, verify that this is your card, and you're ready to go. Your credit card (but not its sensitive data) will then be saved in Passbook; the new red symbol along the top of the Passbook icon in iOS 8 represents credit cards.

How refunds and returns work

There's likely to be some confusion about processing refunds and returns, and for the first few months after Apple Pay launches in the UK. In fact, you may find yourself guiding the shop assistant as much as they do you. But it shouldn't be too hard in practice. Apple explains:

"How do I process returns with Apple Pay? Use the Device Account Number to find the purchase and process the return, just like you would with a traditional credit or debit card payment. To see the last four or five digits of the Device Account Number, ask the customer to go to Passbook, tap the card, and tap 'i' on the lower-right corner of the display.

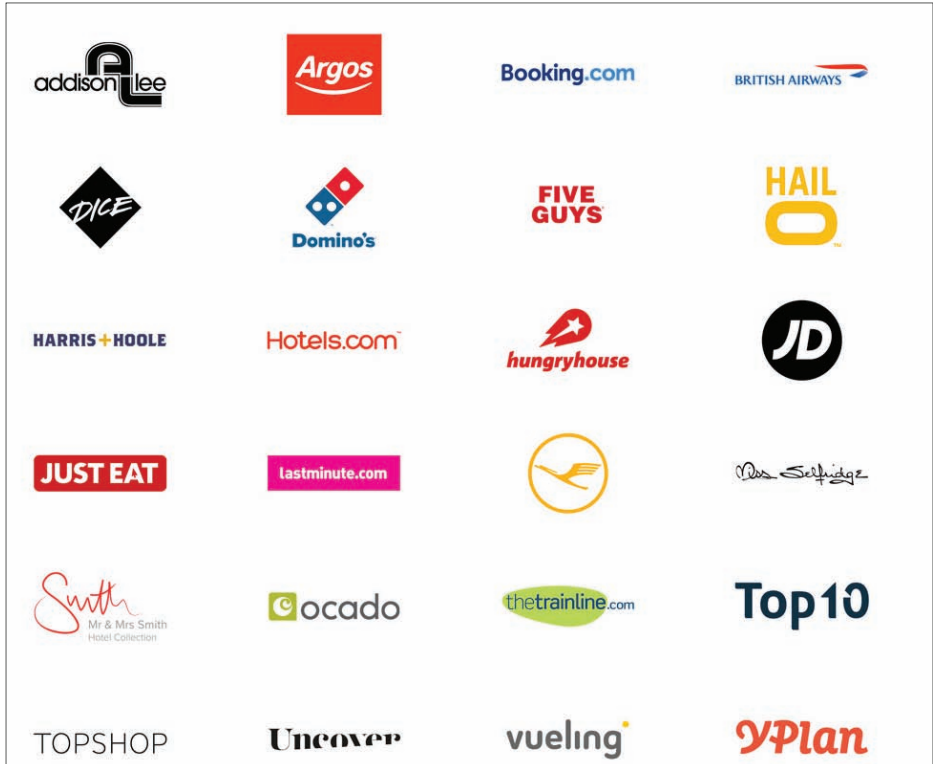
"You can also have the customer hold their iPhone 6 or iPhone 6 Plus near the reader, select the card they used to make the original payment, and authorize the return with Touch ID or passcode."

In other words, it should be as simple as touching your iPhone to the reader, but we'll see how it works out 'on the street'.

Apple Pay online

Apple says that you can use Apple Pay online. It says that this





“one-touch checkout”, since there’s far less need to enter data than in most online payment systems.

Apple Pay in non-Apple apps

A good range of apps work with Apple Pay, including Argos, Topshop and Dominos (see above).

How Apple makes money out of Apple Pay

Apple says it will levy a fee on each purchase from the banks involved in the system. Apple insists it won’t charge users, merchants or developers: in its new Apple Pay FAQs, the company confirms that it

“doesn’t charge any additional fees” for merchants to accept Apple Pay.

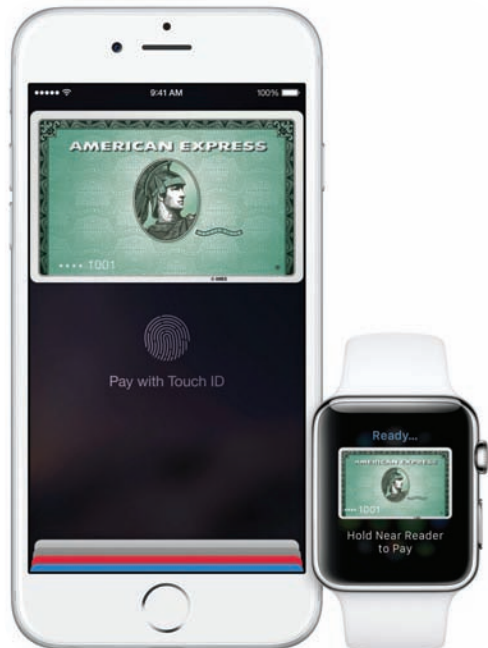
Security

It’s impossible to say with any certainty that Apple Pay’s security is watertight until we’ve tested it out for ourselves over a decent period of time. But Apple executives have fallen over themselves to insist that security was a priority from day one.

If an iPhone is lost or stolen, for instance, you can use Find My iPhone to suspend all payments from that device. There’s no need to cancel the credit card, because the number isn’t stored on the device, as we already mentioned – we can thank tokenisation for that.

Your credit card number isn’t given to the merchant. What you’re doing, rather, is creating a device-only account number and storing it in the secure element. “You use a one-time payment number and a dynamic security code,” explained Senior Vice President Internet Software and Services Eddie Cue at the service’s launch.

The secure element is a hardware

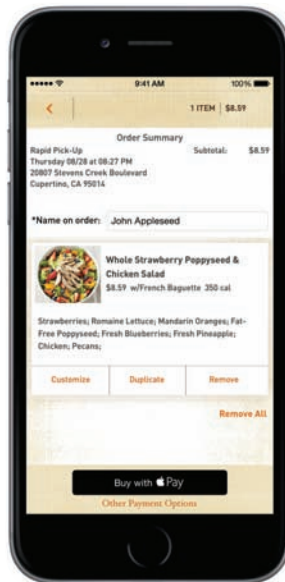


component – a chip inside the iPhone 6 and iPhone 6 Plus where sensitive data can be stored. Secure element is a generic term for protected memory on smart cards, and the data on the secure element isn't even accessible to iOS (it's only accessed via a random code during the transaction). Hackers wouldn't be able to get hold of your credit card details if they hacked your phone. And it's apparently able to sense if someone is dismantling the phone in an attempt to access the data on the secure element.

It's also worth mentioning that Apple has a strong record when it comes to payment systems. Even the biggest payment platforms suffer compromises from time to time, but Apple has built up customer trust when purchasing through its iTunes and the App Stores.

The company hasn't been immune from security problems, admittedly, with the nude celebrity photo leak from iCloud put at its door. (Apple did claim that this was the result of a targeted attack on password and usernames, mind you, rather than a failure of iCloud's security systems.) But even if some pundits felt its initial response to the leak was lacklustre (or even victim-blaming), it then responded by insisting that security will be beefed up in iOS 8: pushing two-factor authentication and sending additional security warnings. Apple is taking security seriously.

Incidentally, Apple CEO Tim Cook pointed out that the system Apple Pay is proposing to replace isn't



exactly super-secure itself, since it's easy to lose a credit card or have it compromised.

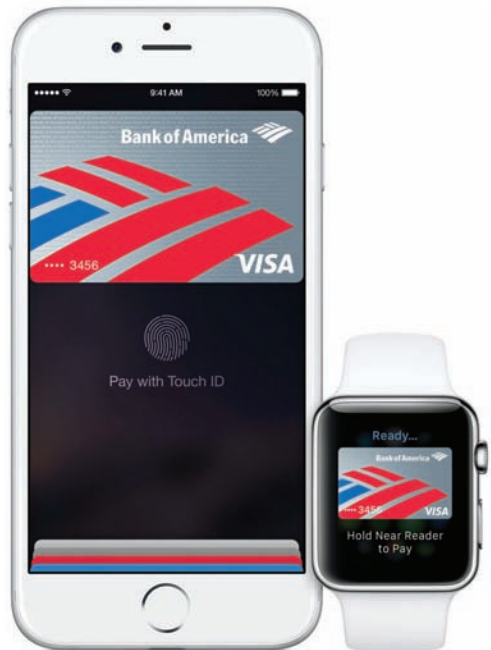
"This whole process is based on this little piece of plastic," he said. "And whether it's a credit or debit card, we're totally reliant on the exposed numbers and the outdated and vulnerable magnetic strip. Which, by the way, is five decades old. And the security codes, which aren't that secure."

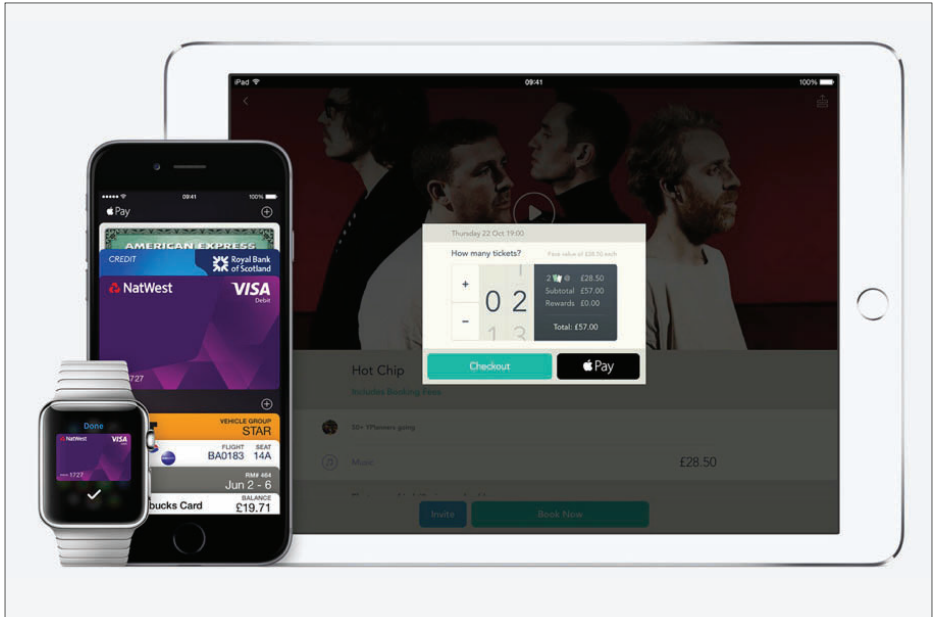
Could a hacker steal my credit card details from the iPhone?

As a security measure, the credit card details aren't actually stored on the iPhone, or on Apple's servers.

Apple says the payment network or issuing bank will provide a Device Account Number, using a technique called tokenisation: replacing a sensitive piece of data with a random piece of data that typically has the same format. Tokenisation reduces or removes the need to update existing systems that require a credit-card number, without exposing the real number to theft.

But here's one last word on security. One site reckons that Apple Pay and other





electronic wallet technologies are actually making it easy to commit credit-card fraud. It reports that criminals are bypassing the security checks by using the old-fashioned fraud method – buying hacked credit-card details – and then setting these up on an iPhone's Apple Pay system. This then allows them to pay for goods without any identification checks beyond the fingerprint, which won't be a problem, because it's the fraudster's phone, even though it's not his credit card.

Obviously this is hardly Apple's fault, nor is it really a new problem – it simply makes the fraud process slightly smoother for criminals who have already got their victim's credit-card details. Read more details for yourself [here](#).

If you are hit by fraud on Apple Pay, are you liable for any losses?

The situation should remain much the same as when using credit- or debit cards on their own. In its guide for merchants, Apple explains about fraud liability:

“Will I [the merchant] be liable for fraud on Apple Pay transactions? Apple Pay transactions are treated in the same way as your current credit and debit transactions. You’ll have the same liability rules applied to Apple Pay transactions.”

Regulations in the UK dictate that cardholders are not held financially liable for any fraud on their cards, “provided you have not acted fraudulently or without reasonable care (such as, you haven’t written down your PIN and haven’t disclosed it to someone else)”, and this will apply under Apple Pay, too.

Payments made using Apple Pay in a shop are classified as card-present transactions, by the way. Payments made using Apple Pay within apps are card-not-present transactions. This has some ramifications in terms of liability if something goes wrong, but either way it shouldn’t be you picking up the tab.

Can you be tracked if you pay using Apple Pay?

Eddie Cue has insisted that: “Security is at the core of Apple Pay; but so is privacy. We are not in the business of collecting your data.”

When you go to a shop, Apple doesn’t get to know what you bought, how much you paid for it, or any other personal details. The guy behind the counter doesn’t get to see your name or your

credit card number – all of which are potential weak spots of the current system, under which cards are occasionally cloned and ripped off.

Which companies support Apple Pay?

Apple has boasted that Apple Pay will be available at more locations for its launch UK than it was for the US launch – and there some big names on the list. Marks and Spencers and Waitrose were two names that Apple picked out at the announcements – being, we'd guess, two brands that seem particularly British to an international audience – but Boots, Lidl, Starbucks, Subway and Liberty are also on the list.

Eagle-eyed readers will notice that Waitrose and Lidl, while recognisable names, are not the top names in the supermarket game, and it seems



that Tesco, Sainsbury's and the rest are waiting to see how things go, or hedging their bets with other payment systems. We imagine that if Apple Pay is as popular here as it is in the States, they'll join up soon enough.

TfL (Transport for London) will support Apple Pay, too, so you'll be able to pay for Tube and bus journeys with your iPhone or Apple Watch.

Which UK banks support Apple Pay?

Most of the big ones have said they plan to join the service, although not all will be part of the scheme when it launches in the UK in July – Halifax, for



first direct

HSBC



NatWest

Royal Bank of Scotland

Santander

Ulster Bank

Coming Soon.



M&S BANK

mbna



example, expects to be part of Apple Pay around the autumn, even though it has committed itself to joining. We understand that American Express, First Direct, HSBC, NatWest, Nationwide, RBS, Santander and Ulster Bank will support Apple Pay at the UK launch in July. Bank of Scotland, Coutts, Halifax, Lloyds Bank, MBNA, M&S Bank and TSB will join at some point later in 2015.

The big name missing from the list, unfortunately for the writer of this article, is Barclays, which says it's still in negotiations about joining. It would be a surprise if Barclays didn't join Apple Pay by the end of the year (going by the results of our poll, above, plenty of people care enough about Apple Pay to switch banks to get it) but it's likely to be last to the party among the major UK banks.

Which iPhones support Apple Pay?

The iPhone 6 and the iPhone 6 Plus. As well as the Touch ID fingerprint scanner that's integral to Apple Pay's identification system, the new iPhones have a dedicated NFC antenna built across the top.

What about the Apple Watch?

Apple Pay will work with the Apple Watch too, which is a thoroughly appealing prospect.

Apple states that the watch will have to be paired with an iPhone (the 5 or later) in order to do this, but it's not entirely clear how this combo will get round the identification side of things (since Touch ID is limited to the iPhone 5s and later). It's possible that the Apple Watch will be used for low-value transactions only – which wouldn't require

an identification at all – or that the device may incorporate some kind of biometric sensor of its own.

Taking the Apple Watch off your wrist locks the screen and requires a passcode to unlock, so it's possible that all parties will feel that simply having the Apple Watch on your wrist (and unlocked) is validation enough to satisfy security requirements.



The company says that Apple Watch-based Apple Pay will come in 'early 2015'. But then again, we haven't got a launch date for the Apple Watch itself, yet. Here's how Apple describes the process of paying with an Apple Watch:

"Double-click to pay and go. You can pay with Apple Watch – just double-click the button next to the Digital Crown and hold the face of your Apple Watch near the contactless reader. A gentle pulse and beep confirm that your payment information was sent."

Do any iPads support Apple Pay?

Yes, to a limited extent. The iPad Air 2 and iPad mini 3 can be used for fingerprint-secured online payments via Apple Pay, but not for the one-touch payment in shops with NFC sensors. Then again, it's hard to imagine many people pulling out a full-size iPad to pay for a coffee.



Most tech sites (this one included) had speculated that the new iPads simply didn't include an NFC antenna, but that theory has been exploded: iFixit has done a teardown on each of the new models and, sure enough, found a mysterious NFC module.

It's unclear, then, why the iPad Air 2 and iPad mini 3 can't use the full version of Apple Pay – nor why Apple bothered to include an NFC antenna in these devices. It's possible that Apple will activate the feature down

the line. Or it may have other functions in mind for the NFC feature, such as device-to-device money transfers or smart home controls.

Will any Macs support Apple Pay?

Maybe the online version will be added to Mac line at some point. As with the iPads, it's clearly hard to imagine even a Mac mini or super svelte MacBook Air being whipped out at the till in Starbucks, but this would be an immense convenience for online shopping.

Sure enough, there has been considerable speculation about Touch ID being added to Apple's Mac line-up at some point in the future – specific Touch ID rumours attached to the next MacBook Air, although that turned out to be wrong.



iOS 9 fixes

Six headaches that Apple is fixing in iOS 9

Apple's iOS 9 has plenty of major features to look forward to, such as a more intelligent Siri, transit maps, and, and side-by-side iPad apps. Just as important, however, are the little things – the minor headaches of previous iOS versions that Apple is now getting around to alleviating.

1. A less-confusing Shift key

Pop quiz. On the default iOS keyboard, are the letters uppercase when the Shift key is grey, or white? Unless you bother to memorise, this issue has likely been a constant source of confusion since iOS 7. (The answer, by the way, is white.) As we mention on page 6 hitting Shift in iOS 9 will

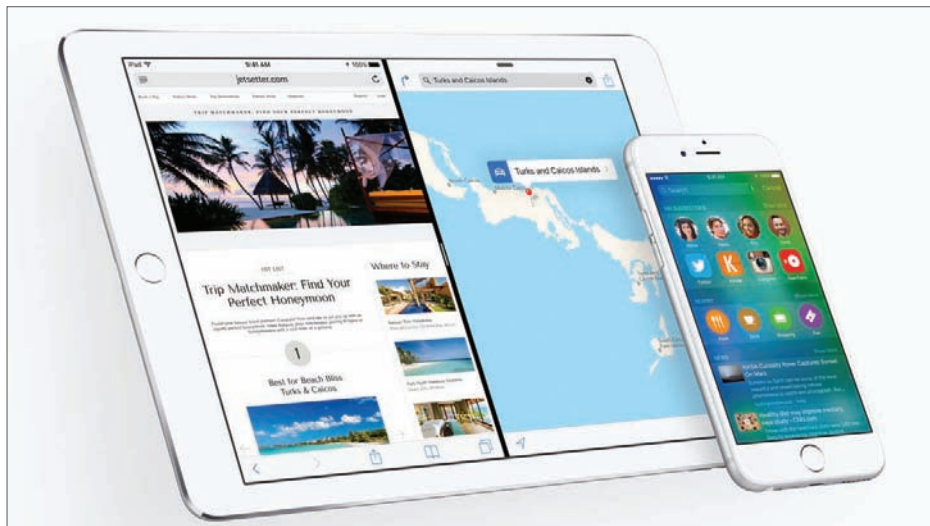
toggle the letters on the keyboard between upper- and lowercase, so there's no ambiguity about what you're about to type.

2. A much smaller OS update

With iOS 8, updating from an older device required a whopping 4.6GB of free storage space. This was a huge barrier for anyone who wanted the latest software, and likely contributed to slower-than-usual adoption. Apple says iOS 9 will require only 1.3GB by comparison, so even 16GB iPhone and iPad users will have an easier time upgrading.

3. Rotation lock for the iPhone mute switch

The iPhone might not have needed a dedicated rotation lock switch when screens were smaller. But the iPhone 6 and 6 Plus can practically act



as miniature iPads, so you might want to quickly enable landscape mode for videos and pictures before switching back to portrait-only. Macrumors notes that iOS 9 will have an option to repurpose the iPhone's mute switch for rotation lock, just like you can on the iPad.

4. A search function for settings

As the iPhone has grown more sophisticated, its settings menu has become much more complex, with dozens of maze like submenus. It probably won't get any simpler in iOS 9, but at least you'll be able to find specific settings with a dedicated search bar at the top of the app.

5. A way back to Safari

We've all been in the situation where a website really wants you to install its iOS app, and you either end up in the App Store by accident or get maliciously redirected. As MacRumors points out, iOS 9 will add a 'Back to' button when you hit an app link from Safari, so you can return to the browser.

6. A proper app for iCloud Drive

After resisting the idea of an iOS file manager for years, Apple took a step in that direction with iCloud Drive in iOS 8. But while this service provided a common storage directory for apps, it didn't have a centralised app of its own for users to manage their files. With iOS 9, users can expose a proper iCloud Drive app through system settings, bringing Apple's online storage solution in line with competitors such as Dropbox and Google Drive.

12 iOS 9 tips

Tricks to help you get mode from iOS 9

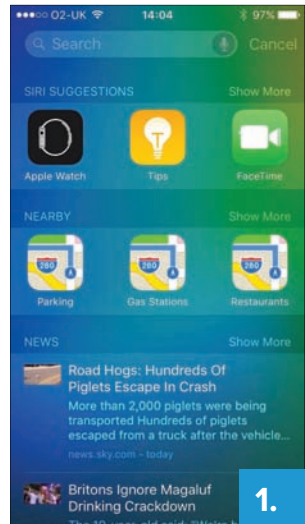
1. Proactive: Teach iOS your routine

iOS 9 has arrived (in beta form, at least), and we're enjoying its plethora of new features. Over the following pages, we're going to walk you through some of our favourites, and help you to master the new features. We'll start with a little something we call 'Proactive'.

Yes, it's pretty much copied from Android's Google Now*. But Proactive remains one of the more pleasing new features in iOS 9, and the one with the greatest potential to be gently life-altering.

Proactive (that's what we're calling it; it appears to be Apple's codename rather than an official branding) tries to stay one step ahead, always doing its best to work out what you'll want to do next and then offer a shortcut to that behaviour.

Ring your mum at a certain time each week? iOS will start placing her contact icon in your Search screen when the appointed hour approaches, so you can make the call with a single swipe (left from the first Home screen/pane, or downwards from any Home screen) and tap. Like to hit the tunes at the gym? You'll get a Now Playing in the lock screen at the usual time, or when you plug in the headphones.



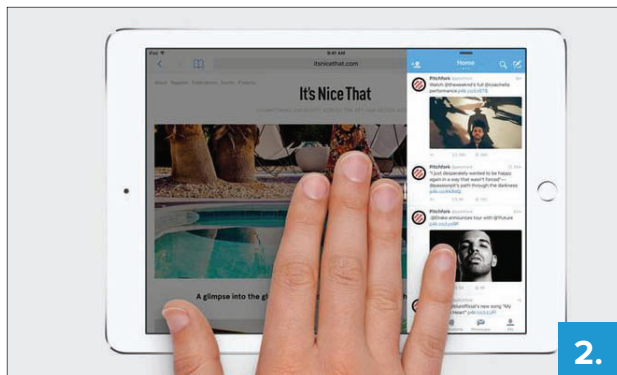
How do you get these conveniences? Just use iOS as much as you can: it'll soon learn. And look out for the shortcuts. Remember to browse the Search screen to see how much iOS has picked up about your habits.

2. Multitasking: Have two apps open

This one is just for the iPad – and the more advanced part of it is just for the Air 2, at least for the time being. (Mind you, it would suit the iPad Pro down to the ground, so maybe there's more to that rumour than we thought...) But it's such a long-awaited and cool-looking feature that those who can get it are in for a treat.

The simple form of multitasking on the iPad involves opening any app and then swiping inwards from the right-hand side of the screen. You'll see a slim sidebar where you can pick another app, and have it open in that part of the screen while the first app remains visible in the rest.

Handy for various work scenarios: viewing an email and copy-and-pasting important elements into



a Notes document open in the main window, for example, or viewing a journey in Maps while noting down directions.

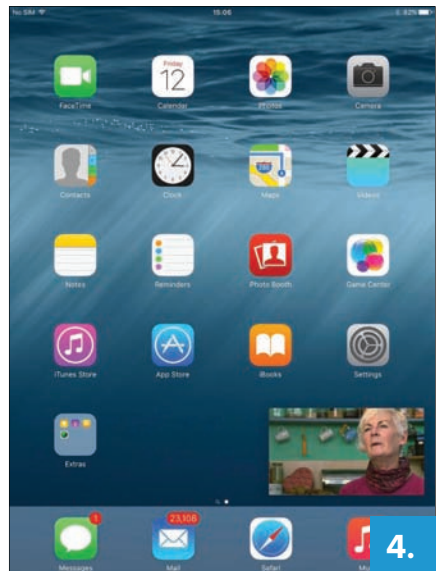
3. Multitasking: Have two tasks on the go at once

If you've got an iPad Air 2, you can take iOS 9's multitasking chops to the next level, by having two apps running side by side and interacting with them both at the same time. This function is called Split View. You can also change the screen space devoted to each of the two apps, although the default appears to be 50/50.

4. Multitasking: Watch video while doing something else

The third aspect of multitasking in iOS 9 is called Picture in Picture, and lets you watch a video while working in other apps. This video can be playing in a dedicated app, or can be live FaceTime video.

Whenever you're watching a video, you just have to press the Home button to tell iOS 9 to shrink the video screen down to a corner of your display. You can then open another apps normally, and the video will keep playing in its little window.



5. Keyboard cursor

Let's look at the system keyboard next: it's not glamorous, but it underpins almost everything you do on an iOS device. First up, and most ambitiously, Apple has given iOS 9's system keyboard the ability to move around a document with a virtual cursor. Simply tap and hold anywhere on the screen with two fingers at once, and the keys will all grey out. From now on, moving the two fingers will move the virtual cursor, automatically selecting any text between the original point where you started and the new place you've moved the cursor to.

It's tricky to get used to, even though Apple calls the function 'Easy text selection', and in the beta version of iOS 9 that we've been using quite buggy. But we love that Apple is trying weird new things with the keyboard in iOS.

6. Shift key

We're back in the realm of mundanity now, but this is an important enhancement. The Shift key in iOS used to be deeply ambiguous, switching colour between the white of the normal keys (off) and the dull grey of the special keys (on) without most people being able to remember which was which.

Rather than adding colour to the On state, as some expected Apple to do, they've made the entire set of keys change from upper to lower case so that you know exactly what's going on.

7. Shortcut bar

The last stop on our tour of the iOS 9 keyboard concerns those awesome new icons that sit either

side of the QuickType suggestion bar. These are shortcuts for common commands.

Depending on the app you're in, the shortcuts will vary, but you'll always get Cut (scissors), Copy (a square and dotted square) and Paste (a solid square and clipboard). If space is tight, however (such as in Notes), these three may be hidden together under a single icon: the scissors. Tap it to reveal the full palette of options.

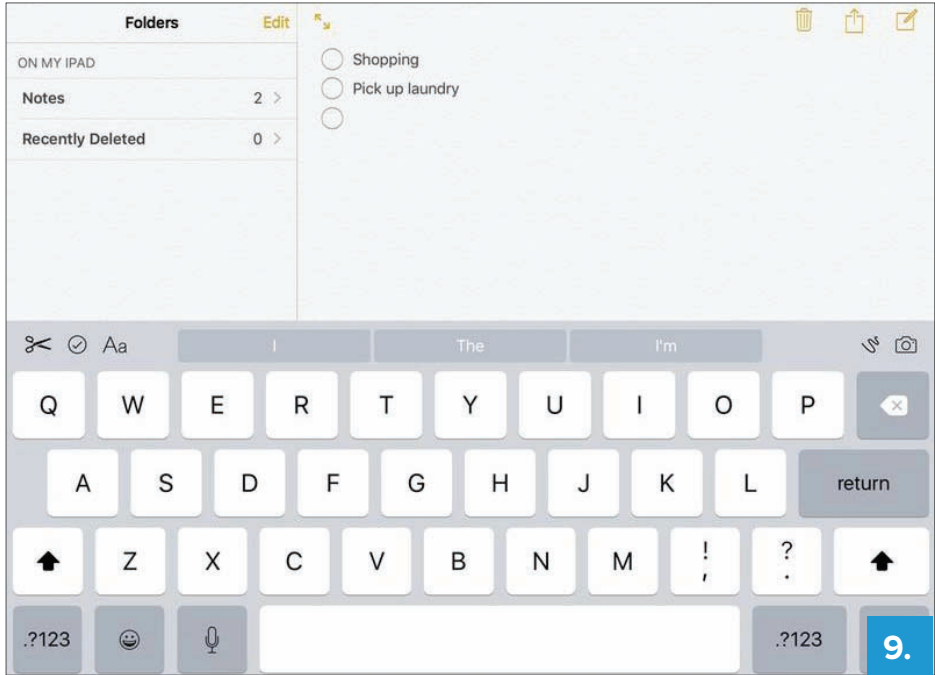
Notes adds shortcuts for formatting options (a capital A and a lower-case a), to-do lists (a tick in a circle) and sketches (a squiggle), both of which we'll discuss later on.

Other apps may offer a camera icon for adding pictures and videos; a paperclip for adding attachments; bold/italic/underlined letters for more formatting options; and so on. Experiment if you see one you don't recognise: there's no 'delete document with no confirmation' icon.

8. Notes: Add Sketches

Let's return, then, to the neglected Notes app, which in iOS 9 has had a few new features added as part of a general revamp.

Most appealingly (at least to us) is its new support for quick line sketches. Tap that squiggle icon we mentioned in the last slide, and Notes will open a new window where you'll compose the sketch you wish to add to your document. Colours are selected along the bottom, as are pens and pencils of varying weight and texture (in fact, there are really only three options – from left to right: a straightforward thin pen line, a highlighter pen that will let pen lines show



through it, and a thin, textured pencil). You can also remove lines with the rubber.

Most fun of all – if digital stationery can ever be so described – is the ruler. Tap it once and it appears on the sketch; tap it again and it disappears. This can be moved around with a single finger, or rotated with two. And at any moment you can sketch along the edge of it with whichever pen/pencil tool you had previously selected (there's no need to 'deselect' the ruler and pick a pen).

There's an Undo and Redo at the top of the window; tap Done to save the sketch in your document. (You can also share or save the sketch on its own – use the sharing icon at the top right.) If you

decide you want to modify the sketch after this point, tap it once in your document and the sketch-editing window will open again. Tap Done to return to your document, complete with updated sketch.

Last tip: You can easily see which of your Notes have sketches attached, because a thumbnail of the sketch will appear to the left of the document's entry in the list of files. If you've included two or more sketches, only the first will be shown.

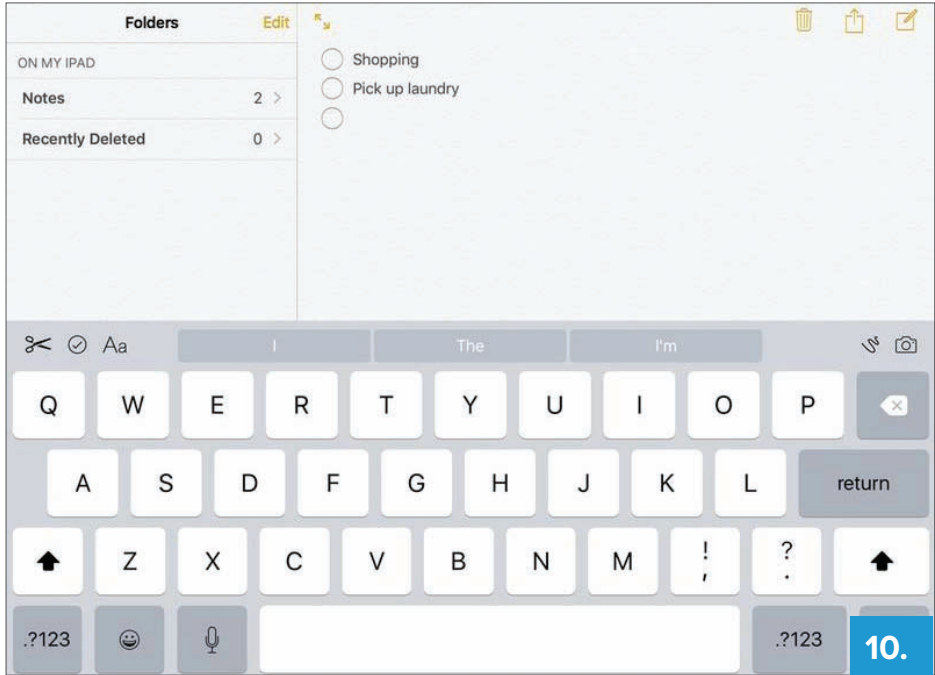
9. Notes: Add to-do lists

This one won't take as long. But it can also be useful. Having taken on board the fact that many iOS users turn to Notes for shopping lists and other forms of the to-do list, Apple has made it easy to add tick boxes next to items on a list, so that you can make a note when each one is accomplished without having to delete it from the list entirely. (This can be handy for repeat lists that need to be performed every day, for instance, or a regular shopping list that is bought in whole or part on a semi-regular basis.)

Highlight your list, using the traditional method or the virtual cursor we mentioned above, and tap the tick-in-a-circle icon. They will immediately turn into tickable action points. Tap the same icon again to revert to a normal list. You can also hit Return to start a new line, and tap the icon once to create a single tick box that you can then write a caption for, if you'd prefer to do things that way round.

10. Notes: Formatting

Notes now has more sophisticated formatting options. These are now accessed via the capital A/



lower-case A icon, instead of from the options bar that appears when select text.

Notes has seven text styles (as well as bold, italic and underlined styles), but three of these are available as a starting default: Title, Heading or Body. You can decide which one Notes defaults to when you start typing in a new document by going to Settings, Notes, New Notes Start With. If you select Title or Heading, Notes will default back to the Body style for the second and subsequent paragraphs.

11. Maps: Public transport directions

If you're planning a journey and don't own a car, Apple Maps was no help at all in iOS 8, lagging years

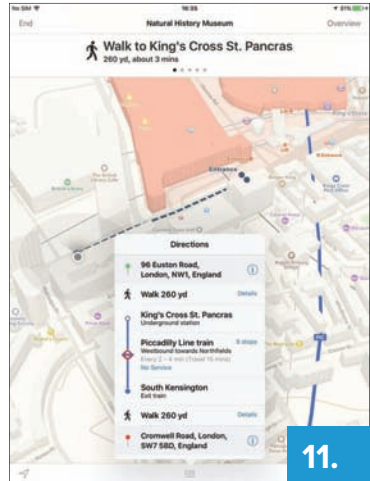
behind its Google counterpart. But iOS 9 adds public-transport directions at last.

Search for a location, then tap Directions at the top left to bring up that section. Select the Transport tab.

Choose the route you wish to take from the options given, then tap Start at the foot of the page. Maps will guide you through your journey. (We've not tested this properly yet, so we're not sure if Maps will be clever enough to cache the journey so you don't lose directions when you go underground and lose signal.)

Alternatively, you can jump to directions from the pin that appears when you run the original search. Note that the pin has a time and a walking icon next to it; tap this and you'll open walking directions. Tap the Transport tab to revert to public-transport directions instead.

Bear in mind that, as far as the UK goes, public-transport directions will be limited to London. The list of supported cities is a bit surreal: six US cities, Toronto and some nearby cities in Canada, London, Berlin, Mexico City, and then more than 300 locations in China. A clue there to Apple's priorities.



12. Power-saving mode

We'll finish on a small but potentially huge change that we've been demanding for years: a system-wide battery-saving mode.

Whenever your iPhone (and as far as we can tell it only works on iPhone, so far at any rate; a later beta may add iPad support) drops below 20 percent power, a message will pop up to warn you of this fact and to offer Low Power Mode. Tap this to reduce animations throughout the system, decrease the time before the screen darkens, and generally make every effort to eke out your battery life for a little longer.

You can activate Low Power Mode at other times: look for the option in the new Battery section of Settings. (It's in the same grouping as the General section, and has a green icon.)

You can tell that Low Power Mode is in effect, by the way, by looking at the battery indicator at the top of the screen: whereas this is green when above 20 percent and red below, it will be orange if in Low Power Mode.





iOS 8 vs iOS 9

How does Apple's upcoming iOS compare to iOS 8

Now that you've had a chance to see what we can expect in iOS 9, you may be wondering how its features compares with those in iOS 8. Therefore in this article we compare the two operating systems, so you can see where they differ.

Typefaces

With the introduction of iOS 7 came the Helvetica Neue system font, a font that received criticism for sacrificing readability for style. While some weren't sure of the new font at first, many have now warmed to it – but that looks to have changed with the

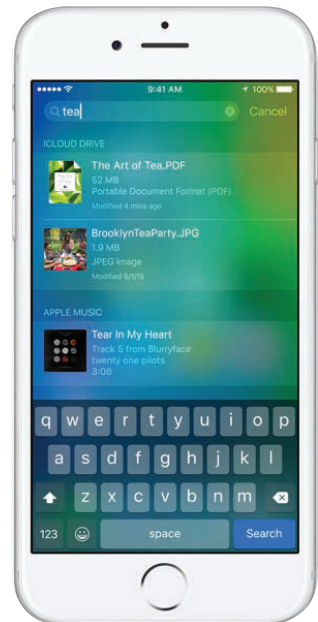
introduction of iOS 9. It seems Apple has opted to use a new system font named ‘San Francisco’ for iPhones, iPads and Macs running iOS 9 and OS X 10.11. If the new font sounds familiar to you, it may be because it’s the system font used on the Apple Watch OS. It should provide an easier reading experience, as, according to Apple, the font was developed “specifically for legibility” to be used on the miniature screen of the Apple Watch. This is possible because San Francisco scales more dynamically than Helvetica Neue, allowing it to “maintain clarity and legibility” regardless of text size. It’s a welcome change for OS X/iOS as a new font can refresh an operating system and stop it from becoming stale.

Developers are already redesigning their apps for San Francisco, which has already spread from the Apple Watch to the printed keyboard characters of the new 12in MacBook.

Siri and Search

As part of the iOS 7 overhaul, Apple showcased a redesigned Search feature. Avid Apple fans may remember that before iOS 7, Search took up a whole page and was accessible by swiping right from your home screen. It wasn’t as powerful as it is these days either, and could only be used for basic tasks.

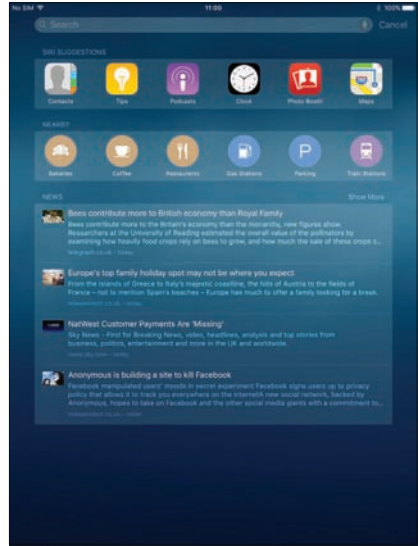
iOS 8’s Search feature is one that we find ourselves using often, and

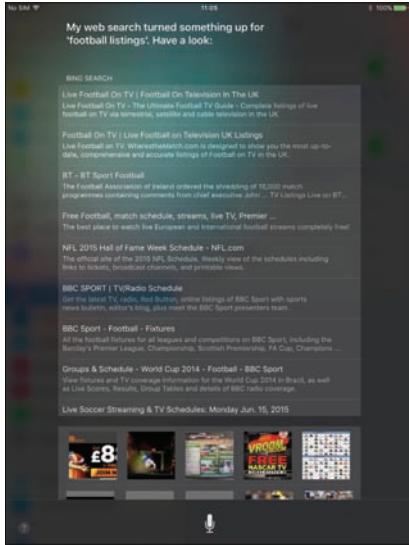


has come a long way since the pre-iOS 7 days. In iOS 8, you can use Search to search Wikipedia, find the latest news, nearby places, apps from the App Store, songs from the iTunes Store and suggested websites, as well as your contacts, messages, emails and notes. Just been told about a new app? Typing in the name will display the app listing from the App Store, including its icon and rating, and tapping on this information will display it in the App Store.

If you thought that was handy, Siri and Search are about to get a lot better in iOS 9. It seems that Apple wants to offer a range of additional information and features based on the users habits and an understanding of context, making your iPhone a 'proactive assistant'.

With iOS 9, you'll be able to ask Siri things such "Hey Siri, what are the football fixtures for this season?" and Siri will find the information that you are looking for. It can also remind you to do things at specific times – say, for example, you need to be reminded to call your wife when you got into the car before you left to head home from work. Tell Siri to remind you to call your wife when you're in the car and Siri will do so! We're not sure how Siri knows you're in your car, but it's cool if not slightly creepy.





The updated Search interface is accessible by swiping down on the home screen (much like in iOS 8) or by swiping right from the first page of your home screen (like pre-iOS 7). You'll be greeted with Siri suggestions including relevant people based on contacts you talk with most, the last contacts you spoke to and even contacts that you're scheduled to meet. You can use it to search for everything from contacts to

calculations to the latest sports results with results displayed directly within the search window – no opening to go to Safari.

Search will also display categories of nearby places including food, drink, shopping and fun. You'll also be served with trending news story based on your current location, so you're always in the loop.

It'll also suggest apps as your device learns your habits. Say, for example, you always check the Weather app when you first wake up, Proactive will offer a little bubble to open it with a single tap. Or if you like to listen to music on the way to work, plugging in your headphones will activate Music on your iPhone and a shortcut to the app will be presented on the lock screen for quick access.

It's more than just that though – say for example, you're creating an email in iOS 9. When you start



adding recipients, iOS will suggest the people that you usually include and will also suggest recipients for commonly used subject lines or event titles. If you get an email with an event included, iOS will create a suggested event in calendar for you. Once it's time to head to the event, iOS will assess the traffic and advise you on the ideal time to leave.

Proactive can be compared to Google Now, and like Google's offering, Proactive will offer a Personal Assistant, Siri. However, this isn't the standard Siri that's featured in iOS 8, it's a more intelligent, context aware personal assistant to quickly respond to your questions and queries.

HomeKit

In iOS 8, a smart device can only be controlled via its own dedicated app and is unable to communicate with other apps/devices. Ironical how they're called

‘smart’ devices but can’t communicate with one another, eh? Anyway, HomeKit is Apple’s answer to an Internet of Things platform, which enables users to control a manner of smart connected devices from their iPhones using either a ‘Home’ app or Siri. Apple announced this platform at WWDC 2014, but we’re yet to see any real integration with iOS.

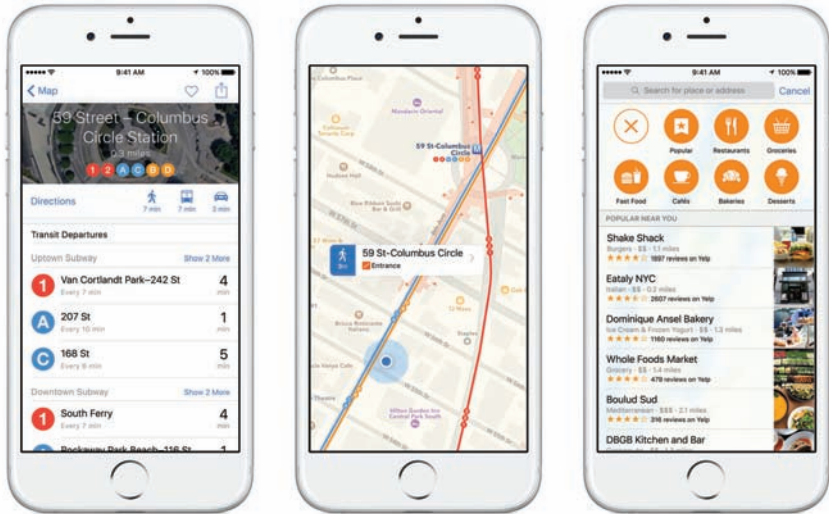
That could be about to change, as HomeKit enabled smart devices are starting to appear on the market, boasting unique features that include Siri control. However there’s still no sign of the reported ‘Home’ app, an app that our colleague Caitlin McGarry explains will “cluster your HomeKit devices by virtual rooms, so you can easily see which accessory you want to turn on, turn off, or adjust without actually looking at it.”

Apple did mention HomeKit briefly during its WWDC 2015 event, nothing that you’ll be able to control smart devices via both your iPhone and Apple Watch, however it didn’t showcase the reported Home app.

Maps

Apple Maps had a rocky start in life, with inaccurate mapping and an icon that instructed users to drive off a bridge onto a motorway. But gladly, it’s come a long way since the dark days and is now our go-to Maps app for iOS – we even compared the two recently. Apple Maps offers 3D mapping, turn-by-turn navigation and Yelp! Integration to quickly get information about businesses around you.

However there’s one feature that Apple Maps is missing, and is one that many have been waiting for



with bated breath: transit directions. It'll be one of the key iOS 9 features, allowing you to plan routes that include buses and trains and showing you step by step instructions including walking times and even which station entrance/exits to use. It's being rolled out for 10 cities worldwide (only London in the UK) and 300 cities in China.

As well as public transport directions, Apple Maps will also suggest nearby locations within categories such as Food, Drinks, Shopping, or Fun. For example, if you tap on Food you'll be given more choices such as Popular, Restaurants, Groceries, Fast Food, and so on, so you can easily browse and find exactly what you're looking for.

Newsstand and News

Newsstand was a feature introduced to Apple's iOS way back in iOS 5 and emulates a newsagents

shop with virtual shelves filled with your digital magazine subscriptions. It featured a Store button in the corner that took you to the Newsstand category of the app store to browse for new subscriptions. It was pretty cool back in 2011, but since then the world has developed with people flocking to free personalised news apps like Flipboard in favour of reading paid digital magazines.



Apple knew Newsstand's days were numbered and at WWDC 2015 announced its replacement, News. News, like Flipboard, collates stories from a number of publications based on your interests and displays them in a beautiful way. It combines digital and print with a design similar to print magazines, but with the interactivity of digital copies with embedded photo galleries, animations and videos.

You can explore over one million topics from both top news publications and indie blogs according to Apple. The best part isn't the variety, it's the intelligence behind it – the more you read on the News app, the more personalised the app becomes. It'll start to select stories relevant to you and your interests, saving you from having to switch between different apps. It also offers an offline-viewing mode for those early morning tube rides, too.

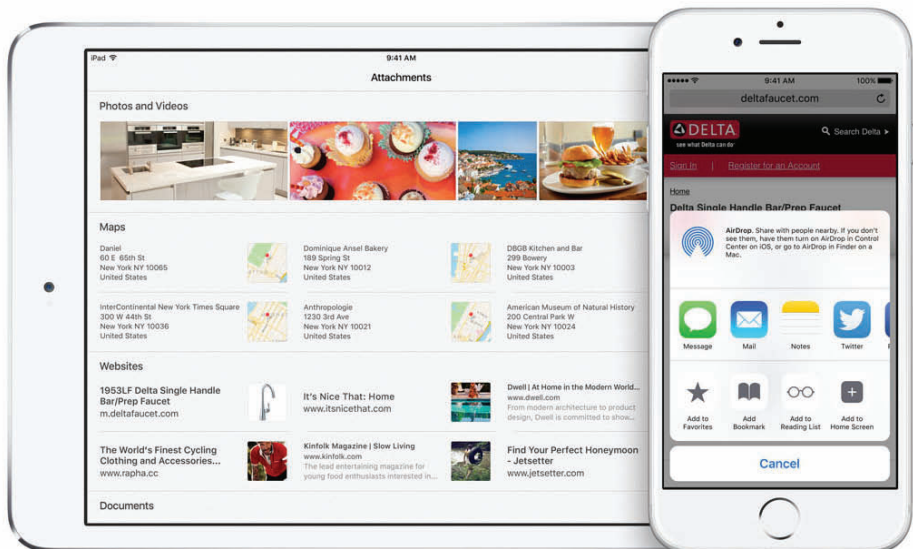
What will happen to the paid magazine subscriptions? Reportedly they'll still be viewable

from within the News app, but you'll be prompted to open them within their own app after reading a handful of articles.

Notes

Notes have been a part of iOS since the early days, but it's always had a similar look and feel to it. Sure, it might have had a face lift for iOS 7 but with regards to features, the app has always stayed largely the same. In iOS 8, you're able to take notes that sync between the Notes app available for iPhone, iPad and Mac but largely, that's it.

For those of you that use the Notes app often, you may have noticed that formatting options are already available on the Notes app, but iOS 9 is bringing more than just formatting options. You can now add smart cards to the Notes app, which allow you to

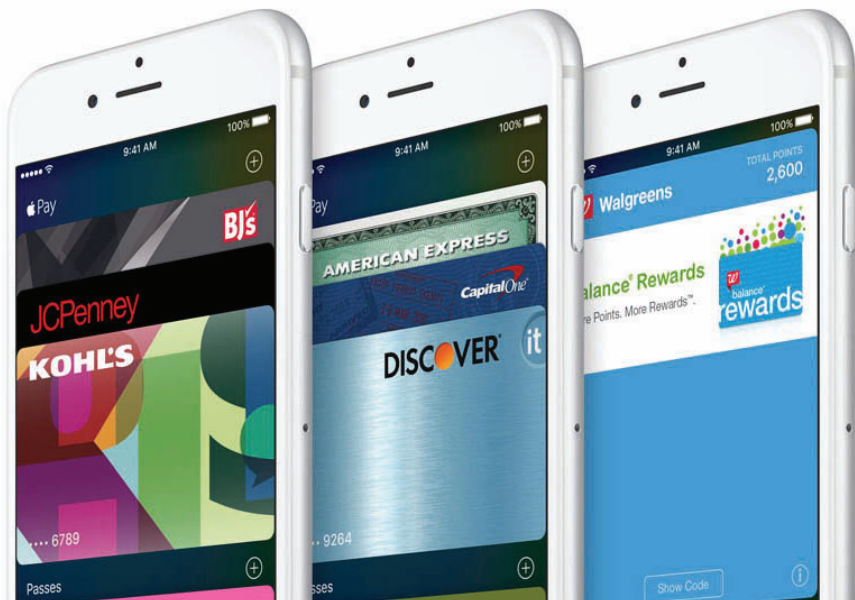


include photos, URLs, documents, and even maps to your notes. Once you've found an attachment you want to add to your note, simply tap the Share button and tap the Notes logo.

We've all used Notes for shopping lists, but in iOS 9 checklists make an appearance in the Notes app. It allows you to list everything you need and check them off the list one by one, similarly to the Reminders app. You can also sketch in the Notes app in iOS 9 by tapping the draw icon at the bottom of the app and offers a variety of brush styles and colours.

Passbook and Wallet

Passbook is a feature of iOS that you either use regularly or not at all, there's no in-between. In iOS 8, Passbook is used to store all your loyalty cards, airline tickets and if you're in the US, various cards





used for Apple Pay. Passbook was supposed to open relevant cards for easy use depending on your location, but we never found this to be the case.

In iOS 9, we wave goodbye to Passbook and say hello to Wallet. In terms of looks, it's almost identical to the Passbook app it replaces but will now support rewards cards to receive and redeem awards using Apple Pay. We're not too sure how much this improves the overall Apple Pay experience as it isn't yet out in the UK, but at least we don't have too long to wait until it is. All you need to do to access your Wallet is double click the Home button when your iPhone is locked.

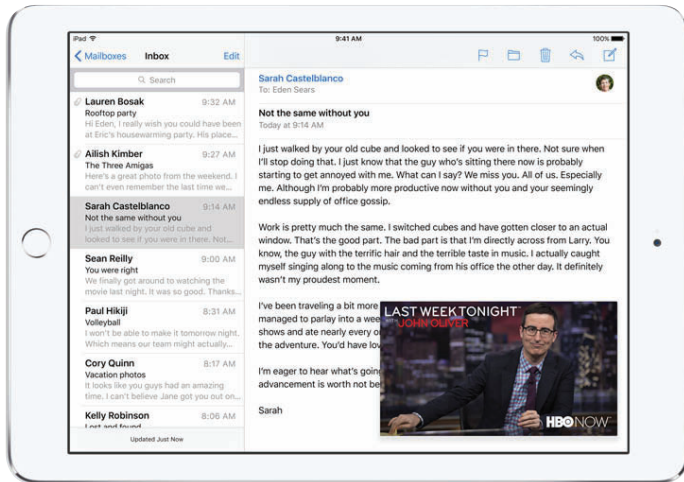
Multitasking

Let's talk about multitasking on the iPad. The iPad has evolved over the years and finds itself at the



centre of many peoples lives, using it for everything from reading books and playing games to editing photos and videos. But for all the success of the iPad, there's one feature missing – true multitasking with the ability to run two apps at once.

That was until now anyway, as iOS 9 brings with it true multitasking for the iPad. One new feature is called Slide Over, a feature that lets you open a second iOS app (that's the width of an iPhone app) alongside the app you're using. Received a text message while playing a game? Swipe in from the edge of the screen and open the Messages app to reply (while the game is still running in full screen) and then simply swipe it away again to hide it. Slide



Over is compatible with the iPad Air and Air 2, as well as the iPad mini 2 and 3.

The next step on from Slide Over is Split View, which as you may have guessed, enables two apps to be open and active side by side. The best part of this functionality is that you can drag-and-drop elements between the two apps. Want to save a photo into Notes? Just drag it over from Safari. You can also rearrange the size of the apps from 50/50 to 70/30, much like you can in Windows 8. Unfortunately only the iPad Air 2 is strong enough to support the Split View functionality.

If Slide Over and Split View aren't enough for your iPad browsing needs, iOS 9 has another trick up its sleeve – Picture in Picture (see above). While using FaceTime or watching a video, press the Home button to exit the app and shrink the video down to be corner of the display, allowing you to perform tasks such as emailing without having to stop

watching the drunken videos of the night before. You also have the ability to manually resize and move the video once its been minimised in case it covers crucial elements of the app you want to use.

Performance and Battery life

The focus of iOS 9 was to improve functionality and performance of the operating system, so as well as introducing new features and improving general performance, your iPhone will last for an additional hour before requiring a charge. As well as this, the company has built in a battery saving mode, which will disable things like animations and push email to give you an extra three hours of battery life.

Those of you with small capacity iPhones may be glad to hear that iOS 9 updates won't be as large as those in iOS 8 – in fact, you'll only need 1.3GB of space to install iOS 9, 3.28GB less than what was required to install iOS 8. Apps will also be smaller in size, mainly thanks to new behind-the-scenes processes that occur when downloading an app from the App Store.





WatchOS 2

Guide to Apple's upcoming OS for the Apple Watch

It may have only been available to buy for six weeks, but Apple is already making lots of improvements to the Apple Watch through a software update called watchOS 2. Apple used WWDC 2015 to announce the update, which includes a number of tweaks and changes that should please Apple Watch users, but it won't be available until autumn, probably launching alongside iOS 9.

"We're thrilled with the feedback we're getting from Apple Watch customers, and after just a few weeks of availability we're excited for developers to start building native apps for watchOS 2," said Kevin Lynch, Apple's head of technology in a press release following the WWDC keynote. "We think Apple Watch users will love being able to see information from their favourite apps right on the watch face,

and enjoy the many new experiences developers will dream up now that they have access to even more innovative features of Apple Watch.”

New features

WatchOS 2 will bring lots of changes to the Apple Watch, and will also open up the opportunities for thousands of new and exciting apps to be made. Here, we’ve listed the new features that have been announced so far for watchOS 2, which is in beta until its release later this year so could change even further.

Developers will now have the ability to create native apps for Apple Watch which will mean huge stability improvements for third-party apps, which is one of the biggest complaints about the Apple Watch right now. Developers will also have access to the Digital Crown, Taptic Engine, accelerometer, microphone and heart rate sensor as well as software APIs that will enable audio and video playback and animations. This means lots of new and exciting apps will be coming to Apple Watch soon.

Apple’s own examples include fitness apps, which will more accurately track your heart rate using the heart rate sensor and accelerometer, smart home apps that let you use the Digital Crown to dim the lights or change the temperature, car-related apps that give you haptic feedback when you’ve locked your car and the ability to leave audio messages in third-party messaging apps. Plus, some apps will be able to host and play video right on your Apple Watch display.



New watch faces are coming with watchOS, including the Photo and Photo album faces that show you a photo or multiple photos. There's also a Time-Lapse face that uses a 24-hour shoot of various locations in cities including London, New York and Shanghai.

The new Time Travel feature will allow users to scroll with the Digital Crown to see events that are happening in the future or have already happened. This can include upcoming meetings or activities, the weather forecast for the week and other information that's pulled in from third party apps such as flight information for an upcoming journey.

App developers will be able to make their own complications in watchOS 2, which means the customisable parts of the watch face itself. This can include flight times, the state of a home control system, electric car charge level and more. It's all made possible with the ClockKit framework.

There's also a new Nightstand mode that shows you the time and your alarm, and enables the



buttons and Digital Crown to be used as a snooze button if you use the Apple Watch as an alarm clock.

New communication features include the ability to swipe between more sets of friends, rather than being restricted to 12 favourites.

You'll now be able to reply to emails on the Apple Watch thanks to an update to Mail, using dictation, Smart Replies or emoji in the same way replying to messages works.

There's also the ability to use multiple colours on one canvas in the Digital Touch feature for better sketches, too.

As part of iOS 9, other new features for watchOS include Transit directions in Maps, the ability to use Apple Pay with merchant reward cards and store-issued credit and debit cards (and by the way, Apple Pay is coming to the UK soon!), workouts from third-party apps can contribute to your Move and Exercise goals, Siri improvements including the ability to use Siri to start workouts, launch glances and reply to email, and Activation Lock to improve security.



WatchOS 2 wins over critic

Why Chuck La Tournous was convinced to buy a Watch

On 24 April, as many of my fellow geeks were up obscenely late (or obscenely early, depending on your time zone) to order their Apple Watches, I was sound asleep, my credit card tucked snugly in my wallet.

That's because from the beginning, I've been on the fence about the Apple Watch. It's not that I have an aversion to buying Apple's big new products out of the gate. After all, I bought the first versions of both the iPhone and iPad. But none of the reviews I'd read – or even Apple's

own announcements – made me see the watch as a must-have device. To the relief of my bank account, I decided to wait a little and see what kind of reaction it got in the real world. Don't get me wrong: I was curious, just not £340 curious.

Since then I've heard about performance issues, dissatisfaction about the absence of native apps, features that were 'dropped' from the shipping version of the watch and more. I've seen people complain about their watch, criticize their watch and even break up with their watch. (Although is it weird that the last one happened on the fashion pages of Sunday newspapers.) So even though I'm filled with as much geek lust as the next person, I made up my mind to wait until version 2. The funny thing is, I thought I meant hardware.

It's the software, stupid

Packed in among the announcements during the keynote at Apple's WWDC was the news that would pique my curiosity and lighten my wallet. Just six weeks or so after the Apple Watch started to ship, the company announced a major upgrade to its operating system that wiped out virtually all my complaints and concerns.

As it turned out, it wasn't a new watch I was looking for, just a new watchOS. Here are the new features that nudged me off the fence and convinced me it was time to buy an Apple Watch:

Native apps

Up until now, third party apps actually ran on your iPhone and basically used the Apple Watch as little

more than a specialized remote display. The ability to run apps directly on the watch should do wonders to correct the laggy performance issues associated with them. And even better, it should open the floodgates for cool new apps that use the watch's hardware features – including its sensors and taptic engine – in innovative new ways.

Time travel

You can already scroll through your calendar with a swipe of your finger or a twist of the Digital Crown inside the Calendar app. But the new Time Travel feature will let you whip forward or back in time right from the watch face, and the complications (including your schedule, the weather, even your remaining battery life) will change before your eyes.

Souped-up Siri

Without an onscreen keyboard, (and no, I'm not asking for one) the ability to use Siri to dictate replies to emails and texts in addition to contextual suggestions is a very welcome improvement. Add to that Siri's newfound ability to start a workout, open Glances, get transit information, and even control HomeKit devices, and you're talking about a seriously useful device.

Everything old is new again

It's not just the new features of watchOS 2 that pushed me over the edge. There are already plenty of features on the Apple Watch that I'm looking forward to trying. As an iPhone 5s user, the Apple Watch will mean I can finally use Apple Pay and

stop pulling my credit card out of my wallet like a caveman. But with the improvements in watchOS 2, I'll also be able to use my loyalty cards, which means it'll be easier to both get fit and earn free donuts – a win-win if I ever heard one.

With watchOS 2, all the improvements and new features team up with the nice-to-haves of the original watch to make it a much more compelling proposition, at least to me. The new version also brings a slew of new nice-to-haves: Nightstand Mode, third-party complications, being able to use my own photos as watch faces, time lapse faces, and Activation lock. These are things that don't really factor into my decision individually, but cumulatively, they add up to that well-rounded, we-sweated-all-the-details experience we expect from Apple. It's a package that feels complete and polished. It feels like this is the Apple Watch that Tim Cook and company wanted to deliver in the first place.

Are we there yet?

It's no surprise that as the watchOS continues to improve, it will appeal to a wider audience. The question is when does it get good enough for you? For me, that threshold is watchOS 2. Now if Apple would let me buy a Silver Aluminium Watch with a Black Sport Band, I'd be downright thrilled.



